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JANUARY, 1855.

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THE
NATURALIST;

A POPULAR MONTHLY MAGAZINE,

ILLUSTRATIVE OF THE

ANIMAL, VEGETABLE, AND MINERAL
KINGDOMS.

WITH NUMEROUS ENGRAVINGS.

CONDUCTED BY

BEVERLEY R. MORRIS, ESQ., A.B., M.D., T.C.D.,

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CORRESPONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF GLASGOW.

HONORARY MEMBER OF THE LITERARY AND SCIENTIFIC INSTITUTION OF KILKENNY.

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NOTICES TO CORRESPONDENTS.

Communications have been received up to December 14th, from S. STONE, Esq.—WM. KIDD, Esq.—R. Mc L.—G. DONALDSON, Esq.

Contributions have been received up to December 14th, from Mr. T. EDWARD—E. S.—REV. G. SOWDEN—MR. T. LISTER—J. Mc INTOSH, Esq.—O. S. ROUND, Esq.—J. C. T.—J. N. BEADLES, Esq.—G. R. TWINN, Esq.—J. F. WHITEAVES, Esq.—R. B. COOKE, Esq.—J. B. DAVIES, Esq.—MR. J. G. BARKER.

We shall feel greatly obliged to any Correspondent who will furnish us with the names of any respectable BIRD-STUFFERS in his neighbourhood.

Many Contributions unavoidably stand over. Our Friends will understand that they are only postponed, not declined.

ERRATUM: Vol. iv., page 271, line 6 from bottom,—for Rooking, read Woking.

It is with deep regret that we announce the death of two distinguished Naturalists,—the Rev. Dr. LANDESBOROUGH, and Professor EDWARD FORBES. Can any of our Friends furnish us with a few particulars respecting each, more than those contained in the Reports of Societies in the present Number?

The Editor begs to announce to his Correspondents, that he has arranged with his Printer, so that the Author of any Paper can have copies of his Article sent him by post at the following rates:—

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VOL. V. -VI

WITH ENGRAVINGS.

LONDON:
MESSRS. GROOMBRIDGE, 5, PATERNOSTER-RROW

M.DCCC.LV.



THE NATURALIST.



THE FISHES OF BANFFSHIRE.

BY MR. THOMAS EDWARD.

THE coast of Banffshire, extending as it does along the southern shore of the Moray Frith, to a distance of forty miles, or thereby, contains, amongst other towns, the fishing villages of Crovie, Gardenstown, Whitehills, Sandend, Portknockie, Portessy, or Rottenslough, Findochite, and Buckie, or rather Buckies,—for there are three if not four small towns beside each other which go by that name. The other towns along the line of that coast, and already alluded to, are, Banff the county town, Macduff, Portsoy, and Cullen; all of which, also contain a number of fishermen.

The dates,—that is, of newer species,—and localities of occurrences, will be given, when satisfactorily known, but not otherwise.

Of fresh-water species we have little to boast; but, as regards our marine produce, we have a goodly number, as will be seen from the following list.

The Basse, or Sea Perch. (*Labrax lupus*.) This is, as far as I am aware, a rare species with us, only three having come under my notice as having occurred. One of these, a most beautiful specimen, was found dead in our river, the Dovert, not far from its mouth, in 1839; and was brought home as a variety of *perca fluviatilis*.

The Ruffe, or Pope. (*Acerina vulgaris*.) One said to have been obtained off Troup-Head, about forty-two years ago.

The Great Weever. (*Trachinus draco*.) It is averred by some to be a mere hoax, concerning the pain said to arise from the prick of the spines of the Weever. Be this as it may, I know that a specimen of the above species, which was brought on shore here in 1810, and which was rather incautiously handled by an acquaintance of mine, was likely to have cost him pretty dear. Some of the spines having pierced one of his fingers, he threw the fish down, but had hardly done so, when he felt a burning pain creeping all over his hand, and in less than five minute's time, it reached his shoulder, pervading his whole arm. The pain was accompanied by a dreadful swelling, and so excruciating was the torture borne by the individual for about three quarter's of an hour, that his friends actually thought he would have gone

mad; and no one who saw him at the time, ever dreamed but that he would have lost his arm. However, by next morning, the pain had ceased, but not so the swelling; it lasted nearly ten days. The individual is still alive; and maintains, to the present day, that he never felt such a painful sensation in all his life, as he then did. This species is of rare occurrence with us.

The Little Weever. (*T. vipera*.) Specimens of the Little Weever are not unfrequently met with; which would seem to indicate that they are more numerous in the Frith than the preceding.

The Red Surmullet, (*Mullus barbatus*.) and the Striped Red Mullet, (*M. surmuletus*.) have both been obtained, the latter being the most frequent. They are known here by the term 'Mullets.'

The Red Gurnard, (*Trigla cuculus*.) is pretty frequent; as also is

The Sapphirine Gurnard. (*T. hirundo*.) Some splendid specimens of this latter fish are annually brought on shore by our fishermen, towards the end of autumn.

The Gray Gurnard. (*T. gurnardus*.) This is our commonest Gurnard; and, judging from the numbers taken, must be very numerous. They are known here by the term of 'Crunack.' They are not much esteemed as an article of food, even among the peasants; and are, in consequence, seldom brought to the market.

The Little Gurnard. (*T. pæcilopectera*.) Somewhat rare. I remember once taking one from the stomach of a Great Northern Diver, which was shot between Findochite and Speymouth, in the spring of 1840, and which was sent me for the purpose of being preserved. The remains of another were brought me, not long since, by one of my own girls. It was found in our harbour.

The Short-spined Cottus. (*Cottus scorpius*.) Pretty frequent.

The Long-spined Cottus. (*C. bubalis*.) Rather plentiful. I find them in abundance, in pools left by the tide, or beneath stones at low water. Many of them exhibit some most beautiful markings.

The Four-horned Cottus. (*C. quadricornis*.) I have never found this species but in the stomachs of other fish; which leads me to conclude, that they generally inhabit pretty deep water; or, at least, that they do not come so near to the shore as the preceding species.

The Armed Bullhead. (*Aspidophorus Europæus*.) This is another stomach species. But I have found these, also, though very sparingly, amongst the rocks at low tide.

The Rough-tailed, Three-spined Stickleback, (*Gasterosteus trachurus*.) and the Smooth-tailed Stickleback, (*G. leiurus*.) are both plentiful. The former along the coast, and the latter in our streams and rivulets.

The Fifteen-spined Stickleback. (*Spinachia vulgaris*.) Common among the pools along the shore. I have seen this species with sixteen and seventeen

spines. They are known amongst our fishermen by the very peculiar denomination of 'Willie-wan-beard.'

The Gilt-head. (*Chrysophrys aurata*.) I have only seen two specimens of this fish, which have been procured with us. The one was taken off Buckie, in 1841; and the other was brought on shore at Portsoy, in 1839. They appear to be scarce, from the fact that the fishermen do not know them.

The Sea Bream. (*Pagellus centrodontus*.) This is a more common species; numbers appearing annually; some seasons, however, in greater abundance than others. They are sold here under the name of 'Perch.'

Ray's Bream. (*Brama Raii*.) Rare.

The Black Bream. (*Cantharus griseus*.) A few of these are generally procured every autumn, or at the beginning of winter. They are known and sold here under the term of 'Old Wife.'

The Four-toothed Sparus. (*Dentex vulgaris*.) Although this species, like many more, bears the name '*vulgaris*,' that is, *common*, it is not so with us; at least, so far as I know. I am only aware of one specimen, which was taken off Troup-Head, in 1830. But others may have been got, though unknown to me.

The Mackerel. (*Scomber scombrus*.) This beautiful and highly prized fish generally appears on our part of the coast about autumn; in some seasons, in great plenty; in others, not so numerous.

The Spanish Mackerel? (*S. colias*?) As will be seen, I have placed this species here as doubtful. A mackerel differing, in many respects, from the one noted above, and which agreed very well with *S. colias*, was taken off Portknockie, in 1819; but by the time I had the pleasure of seeing it, it was a good deal disfigured. Still, as I have already said, it exhibited many of the markings, and other characteristics of the Spanish Mackerel.

The Tunny. (*Thynnus vulgaris*.) Several specimens of this fish have, from time to time, been taken with us. A very large one was captured in the salmon net at Portsoy, in 1850. It measured over nine feet in length, and six feet in girth.

The Sword-fish. (*Xiphias gladius*.) A small specimen of this fish,—rare on this part of the coast,—was caught in our harbour in 1841, by an individual taking shrimps. It was brought me two days afterwards; but unfortunately, was too much destroyed for preservation.

The Pilot-fish. (*Naucrates ductor*.) A very fine specimen of this rare, and rather peculiar fish, was taken in our bay about forty years ago, and was exhibited as a curiosity. It was unknown in the place, and to the party who took it; but an old tar chancing to see it, who had seen a little service abroad, having hitched up his trousers, and rid his mouth of a yard or two of tobacco juice, exclaimed, with something of a knowing air,—“Well, I'll be —— if that isn't a Pilot; and a pretty one it is, too. We used to see them often, when sailing in the Mediterranean.”

The Scad, or Horse-Mackerel, (*Caranx trachurus*.) or, as it is termed here, the 'Buck Mackerel,' is not very numerous, and is very seldom used as an article of food. Its appearance here is generally about the time of herring-fishing. I once found a rather strange variety of this species. It was about the usual size; but was all over of a most beautiful golden yellow, finely striped and variegated with numerous lines of the brightest blue; except the fins, which were of the finest carmine.

The Dory. (*Zeus faber*.) There are several stories here of the Dory having been taken on our coast; but I cannot answer for their authenticity, although I have given it a place in my list.

The Opah, or King-fish, (*Lampris guttatus*.) has occurred on several occasions; as off Troup-Head in 1829, at Black Pots in 1838, on the shore near Portessy in 1844, and at Buckie during the present summer of 1854.

The Gray Mullet. (*Mugil capit.*) I am only aware of two specimens of this Mullet, which have been procured within our limits; the one at Gardenstown in 1827, and the other at Cullen three years later.

Montagu's Blenny. (*Blennius Montagu*.) One specimen taken from the stomach of a Haddock, in 1853.

The Gattoruginous Blenny. (*Blennius gattorugine*.) I have met with this species only on two occasions.

Yarrell's Blenny. (*Blennius Yarrellii*.) Rarely met with. I have a splendid specimen in my collection, which was found cast on shore by one of my girls, as she was passing between Gardenstown and Crovie, during the early part of 1854, and already mentioned in THE NATURALIST.

The Shanny, or Smooth Blenny, (*Blennius pholis*.) the Spotted Gunnel, (*Gunnellus vulgaris*.) and the Viviparous or Green Blenny, (*Zoarces viviparus*.) are all to be met with amongst the low-lying rocks along our line of shore. A female of the last-named species, which I had procured for the purpose of preserving, and which I had put into a basin of fresh-water, to deprive it of life, surprised me a good deal,—though, at the same time, I was very well pleased at the occurrence,—by giving birth to a numerous progeny, but which all died soon after being extruded. One strange circumstance which I observed was, that they did not all come into the world after the same fashion. Some came with the tail first, and others with the head. They had, each of them, two small bladder-like appendages, which were attached one to each side, betwixt the head and the vent.

The Wolf-fish. (*Anarrhichus lupus*.) Frequent, but seldom used as food. I find them pretty often cast on shore dead, after a storm; which would seem to indicate that their habitat is not always in deep water.

The Black Goby. (*Gobius niger*.) These inhabiting the rocky parts of the coast, become, at times, the prey of the Haddock, &c. Though they do not seem to be numerous in this arm of the sea, I meet with them occasionally in the stomachs of fishes.

(To be continued.)

NOTES ON THE FROG. (*RANA TEMPORARIA*.)

BY JOHN DIXON, ESQ.

Poor, inoffensive Frog; what dost thou here?
 While cruel foes are standing neare;
 Come skip along, these flowers among,
 And banish all thy feare.
 For now I note thy panting throat,
 Thy glittering eye, and tinted coat;
 And though thou can be friende to man,
 Yet oft thy limbes he'll teare.
 'Tis sad to finde the heart unkinde,
 To creatures thus for good designed;
 And framed by One, their course to run,
 To show His wisdom cleare.

AUTUMN—crowned with that most inestimable blessing, an abundant harvest—steals fast upon us; the trees, clad in their leaves of brightest hue, impart a quiet charm to the sunny landscape, now fanned by a soft and murmuring breeze, with odours laden that from gentle showers have sprung. The busy bee still wings its way amidst the floral beauties left, and trips from flower to flower with drowsy hum. Our stony path yields even forms to please that mind, which finds its gems in commonest weeds: the groundsel still puts out a few flowers, neighbour to others of more showy guise; here the cranesbill lingers in happy contrast to the humble dandelion or hawkweed, yet most gay; there the modest daisy unassumingly peeps out; and as we wander on, the shepherd's-purse, bright ragwort, knapweed, scabious, and the rest, do all attest, that days full mild remain. The gurgling brook can boast its happy dwellers, too: for here the minnow, stickleback, and loach ply their scaly oars, and timorous bullheads swiftly dart about; the basking frog with keenest eye detects our near approach, and touched with fear, beneath the surface dives. The banks are graced with moisture-loving alders, and the pensile birch; while guelder-roses, hollies, and the mountain ash, with scarlet berries glow; heps and haws on every hedge abound; and flowers of meadow-sweet, valerian, water-pepper, and the plantain, stay the observant eye; and serve to deck the crystal stream, whose rocky banks with yellow ferns are clad. A butterfly may cross our path, and tiny insects sport above our heads; then, as the day declines in mild twilight, the droning beetle soon the ear assails; and moths of varied tint now flit about, to tempt the swift winged bat to venture out and skim the air. The swallows all are gone; the wren and redbreast grow more bold, and cheer us with their song; the sparrow, ever gay, still chirps his lay, unmindful of the seasons' change; he loves companionship, and gladly joins the shoals of finches that now frequent the fold-yards, and in the midst he holds a place, the noisiest of the crew. The missel-thrush,

the blithesome lark, in flocks unite; while congregated starlings join the sable rooks; and all that Nature subjects to our gaze proclaims stern Winter drawing on apace, when many forms now full of life will seek retreats, wherein to sleep the nipping season out; till Spring again appears with smiling face, and sunshine tempts them forth. Divine appointments all, and wisely framed for great and wondrous ends, to man inscrutable; an indication clear of all-directing Power—that Mighty One whom heaven and earth obeys—whose very nod could rend the universe, or hurl this earthly planet from its sphere, and yet in mercy stoops to note the sparrow's fall.

Frogs, as generally reported, secrete themselves for the winter, in mud at the bottom of ponds and ditches, where they have often been found in large numbers, clustered together; but a short exposure to the air will soon rouse the torpid mass to activity. Other retreats are, however, often selected; as holes in walls, beneath stones, a bank side,* or even hollow trees, where sufficient humidity exists to suit their habits. In such situations they have occurred in company with the Toad, Newt, and some varieties of the Snail; and it has been remarked, that the Frog is first aroused from slumber.

On the 9th Dec., 1848, I accompanied an antiquarian friend to Gipton, for the purpose of surveying some Saxon earthworks there. In one field was a slight hollow place with a spring in it, forming a little pool covered with duckweed; adjacent stood an old wall, studded with lichens and mosses, and built into it was a curious primeval relic in the shape of a quern.† As nothing would satisfy the antiquary but carrying it off, we set vigorously to work to extract it. Stone after stone was carefully removed, till one large fragment required the aid of both; and as we raised it from its bed, my friend, *eo instante*, gave a sudden cry, and bolted back; startled by the appearance of three fine yellow Frogs, which were squatting in a crevice below. Our proceedings had evidently disturbed their slumbers, for they were wide awake enough; and, while I stood laughing, popped with one accord into the pool below. The colour of these Frogs was much brighter than they usually are when found in a torpid state; most specimens I have seen being of a dusky hue—in fact, the colour of a Toad. To get into this retreat, the Frogs must have forced their way through a very contracted aperture. I remember one being found in a torpid state, in a cavity near the roots of a dead willow; the only *apparent* entrance was a very small hole, through which one would suppose a full-grown Frog could only have forced its way with great difficulty.

I have not paid sufficient attention to the history of this reptile, to become acquainted with the several stages of its growth; but I believe most naturalists agree, that they do not attain full maturity till the end of three

* London's Mag. Nat. History, vol. iii., p. 147; vol. vi., p. 456.

† Vide Pennant's Tour in Scotland, &c., vol. ii., pp. 323, 329.

years. We may often notice, during the late autumn months, young Frogs, which, as cold weather draws on and food becomes scarce, must be compelled to look out for eligible winter lodgings; such specimens could with ease creep through these narrow passages. But, I must then ask,—do they grow rapidly during torpidity? If so, the many instances recorded of Frogs and Toads being found in the hearts of trees* are more readily accounted for on the supposition, that they have crept through some small hole, and grown too corpulent to get out again; than that the bark of the tree should have expanded during winter, and entirely closed the entrance. But no doubt, some of your more observant and better informed correspondents can furnish other notes respecting this query.

Their reanimation, towards the close of winter, depends in some measure on temperature; but no sooner are they called to life, than the great work of multiplication commences; their croaking is heard on every side; and if a ramble should lead us to the side of some clear pool, we find it full of animation, with

“Amorous Frogs, in clusters firmly bounde.”

This “gendering,” as the country folk about here call it, sometimes takes place very early, as the following extract from my rude calendar will testify:—

“Feb. 1st., 1852.†—Fine mild day—clear, deep blue sky. Swarms of midges merrily sporting about the dry ferny banks. Skylarks singing most beautifully on Blackmoor; heard the redbreast, wren, and hedge-sparrow too. Frogs spawning in a ditch near Verity’s house, at Pennyfynon, (vulgarly called Pennyfun, *i. e.*, found.) I never noticed this so early before; the average period, according to my observations, being from the latter end of February to the middle of March. Gilbert White’s earliest record is Feb. 9th.”

The eggs are generally hatched in about five weeks after being deposited; and before the middle of April, we are sure to observe myriads of little Tadpoles wriggling away in every ditch. In this state the Newt preys on them; and great numbers perish, particularly in a dry spring, by the water evaporating: so that, out of 1400 eggs, which De Montbeillard‡ informs us a single Frog will spawn, perhaps not one-sixth of that number arrive at maturity; and these have enemies in the shape of rats,§ mice, snakes, ducks, and many other birds, and lastly—man, who, in his ignorance of their good services, will still persist in destroying them.

* Mag. Nat. Hist., vol. vi., p. 459.

† My calendar indicates the winter of 1851—2 as having been a mild one.

‡ Dict. Classique d’ Hist. Nat., vol. vii., p. 495.

§ Mag. Nat. Hist., vol. v., p. 490.

During moist, warm nights, in July and August, we may often fall in with great numbers of Frogs not larger than the finger-nail; at such times they quit the water to see the world on shore, and skip nimbly about the wet grass in search of food; by this means getting gradually dispersed. They often swarm to such an extent, as to cause some people to entertain a fallacious idea of their having fallen from the clouds.

"Greene Frogs, ingendered by the seed of slime,
First without feete, then leggs assume; now strong
And apt to swimme, their hinder parts more long
Than are their former, framed to skip and jump."*

These little creatures are ever full of life and activity. I never watch their motions but with pleasure, and think how happy they seem. Then, again: How admirably Divine Wisdom has created them for performing the several useful ends and functions of existence! Note how wonderfully the tongue is framed for securing prey. A buzzing curious fly, perhaps, settles near; and, before the eye can detect any movement, it is swallowed by the watchful creature. How beautifully proportioned are its limbs; and how well adapted for progression, both on land and in water! How gracefully, and with what celerity, it swims about; and what extraordinary leaps it can make! Yes: even in this despised of Nature's work we trace the lineaments of that true perfection apparent in the humblest weed, or lowest thing that breathes.

"These are Thy glorious works, Parent of Good!
Almighty! Thine this universal frame,
Thus wondrous fair! Thyself how wondrous then!
Unspeakable! who sit'st above the heavens,
To us invisible, or dimly seen
In these Thy lowest works; yet these declare
Thy goodness beyond thought, and power divine!"†

(To be continued.)

NOTES ON THE REDBREAST (*ERYTHACA RUBECULA*).
THE AMATEUR (FEATHERED) CHORISTERS,
DOMESTICATED IN THE CRYSTAL PALACE, SYDENHAM.

BY WILLIAM KIDD, ESQ.

THE constancy of my love for that truly amiable little fellow, the Robin, is no secret. I have chronicled personal anecdotes out of number of him and his tribe; and I have enjoyed the satisfaction of seeing nearly all these

* Sandy's Ovid, 1640.

† Milton.

"pretty facts" going the round of the English and Foreign Press. Had Master Bob only been born, originally, abroad—I rejoice that he was not—at what a value would he have been rated! But, being of English extraction, he, like a prophet, has little honor accorded him in "his own country." Those, however, who love him, (no small number,) will make up for the fashionable apathy of the rest.

My object to-day is, to call the special attention of your readers to the domestication, by self-invitation, of a large number of Robins, male and female, in the Crystal Palace, Sydenham. No person who has the slightest partiality—to say nothing about affection—for birds, can witness the performances, and listen to the improvised snatches of song, in which our red-breasted little friends take so conspicuous a part, without the most lively feelings of delight. Enclosed within some twelve acres of glass,—enjoying the sun, and sheltered from the severity of the weather, *here*, no doubt, they will live; and, if permitted, die. May *that* day be very far distant.

We have now to record the fact of this Colony being perfectly "at home," in this colossal building. They "nest" here; in the tropical trees and rock-work,—in the fancifully and prettily-suspended baskets of flowers,—in the Creepers decorating the fronts of the galleries,—and in other convenient sites. When their young are nearly fledged, they are brought out mysteriously, to have a peep at the moving mass of humanity beneath them. The little families are then regularly introduced at the dinner-table; and show, at a very tender age, much Epicurean discrimination in their selection of tid-bits. No *mauvaise honte* is there about them. Oh—no! Young and old are alike bold and independent. Butter, sugar, cheese, bread, sponge-cake, &c., &c, to all and each, in turn, they do ample justice. Let me remark, that "an example" is set them in this matter, so general and so perpetually repeated, that the *gourmandise* of Master Bob is only the "natural consequence" of his keeping *such* company. We often look on, and marvel at the "sayings and doings" perpetrated at these dinner-tables. Nor is our wonder at all diminished as we travel homewards. We have the scene vividly before us, long after we have reached our "household gods." If the capabilities of eating and drinking were to be contended for, as a proof of "national virtue," what a "virtuous land" ours would be!

Having drawn attention to some of the peculiarities of our little "imitative" friends, I would now speak of the melodious harmony of their united voices,—which, at this particular season, (October,) is perfectly enchanting. Perched up aloft, each seems to vie with his distant fellow in *filling* the expansive building with song,—and *such* song! Towards evening, they sing even sweeter still; for they seem to consider it an act of pleasing duty to "sing the visitors out." Nor do they scruple to mix among them,—trotting along among the shrubs, or perching on the suspended baskets of flowers immediately over-head.

I shall have a good deal to say to you, on a future occasion, about what might be done,—nay, *should be done*, in the matter of adapting this spacious building to the habitation of certain birds of song; which would not only live there happily, but form a great source of attraction to visitors generally. At present, I content myself with calling attention to “the little bird with russet coat,” whose livery, just now, is both new and beautiful. Man’s friend he surely is: May man tender him his friendship in return!

Hammersmith, Oct. 2nd, 1854.

We should observe, that the above came to hand in *October*, and was apropos of the doings at Sydenham Palace, at that particular season. However, as the same pleasing scenes will be again gone through shortly, and with an increased interest, we have preferred to record them in the opening number of the New Year.—B. R. M.

NESTING OF THE WATER-OUZEL, IN NORFOLK.

(*CINCLUS AQUATICUS*.)

BY G. R. TWINN, ESQ.

MORE than one of the many correspondents of *THE NATURALIST*, observing my notice of this bird’s nesting in Norfolk, have addressed me relative to the circumstance: I therefore supply my stray notes for general benefit, if approved. The Ouzel is not at all common in the south and east of England, I believe; yet doubtless many a one visits those parts, and is seen by some, who (in the language of Mr. Round, in the November No., page 247) from their occupation in the fields, however ignorant, speaking scientifically, have still a knowledge of many things, yet unknown, perhaps to professors; and therefore I am one, not at all sceptical, when I hear of a strange bird appearing in a locality not proverbial for its general presence.

’Tis a good thing, I readily allow, to secure truth and corroboration, and supply facts from actual observation; thus I am additionally induced to send my “jottings” to *THE NATURALIST*. The Water-Ouzel, I consider, (with many others,) “more local than rare;” and this was the first I had met with, nesting in Norfolk; yet I think I have not been deceived in observing it among the early spring visitants for the last four years. I am not the only person, who pronounced this nest an Ouzel’s; for my companion, at the time of discovery, was one well versed in nests and oölogy. I deem myself fully justified, in placing this bird among those that are to be found in the Eastern Counties. Mr. Yarrell, if I recollect aright, mentions one being seen at a

water-mill on the Colne, about two or three hundred yards above the place at which that river falls into the Thames : also on the Mole, near Esher, and in Essex it has been met with. Mr. Harper, of Norwich, (in *THE NATURALIST*, vol. iv., p. 165,) records a specimen, shot at Lingwood ; therefore I do not consider it strange or improbable, that it should be found nesting in Norfolk ; for amid that rural county, there are so many dear little village nooks, and most of them watered by a runnel or rivulet, with beautiful attendant foliage, that would be most inviting, and adapted to the specific habits of the Water-Ouzel. Moreover, I am informed, that this is not the first instance of this bird's nesting in Norfolk ; though the first in my own experience, I readily believe it is not the first in the county. A brief description of the nest may be interesting. It was somewhat similar to a Blackbird's, one side being higher than the other ; it was formed of more fibrous and rooty materials than either Thrush or Merle employs ; its situation very low in the matted grasses and weeds, at the base of a small hawthorn hedge, very close to the outer brickwork of a little arch, for the beck or stream to pass under ; about half-a-mile distant from Bawburgh hill. The nest was on the inner side of the hedge skirting to the road, close by the water, as will at once be seen from its low position. I think more green materials, as moss, and a stray piece or two of lichen, adorned its exterior, than are used by the common Blackbird. It was a very snug affair ; the date, March 31st, 1844, which strikes me as being peculiarly early. I would add, that not only was the nest plundered of its solitary egg, (mentioned in my former communication,) but it, itself, was utterly destroyed ; a very great regret.

Instances of this bird building a "domed" nest are common ; and I imagine the one side of this, (found by me,) being a little raised, is quite in keeping with its preponderating habit. If I thus am adding "a mite" of confirmation to a hitherto-unsettled point, the nesting of the Water-Ouzel in Norfolk, I shall feel I have only done what every student of nature should do,—cast his share into the public treasury for general good.

NOTE.—Of the Water-Ouzel, it has been written :

" Leafy vale,
Green bower, and hedge-row fair, and garden rich
With bud and blossom, delight him not."

My discovery accords not with this ; perhaps it was the exception, as the "hedge-row fair" was selected.

Birmingham, Nov. 10th, 1854.

NOTES ON THE FERNS FOUND NEAR WOOL-BRIDGE, DORSET.

BY JOHN E. DANIEL, ESQ.

HAVING, during the last summer, collected a number of that beautiful class of plants, Ferns, I venture to send you a list of those found in this immediate neighbourhood; and though I cannot presume to say it is perfect, it will be found, I trust, correct as far as it goes, and may serve as the basis of a more extended catalogue of the Ferns of this district.

The nomenclature is that of Newman's "History of British Ferns," Van Voorst, 1854.

Blechnum spicant, Hard Fern, is abundant in woods, hedge-rows, and by the hedge-banks of small streams. It is most luxuriant, especially if growing in a heathy soil, well shadowed by trees, whence I have gathered fertile fronds thirty inches in length. Both fronds occasionally produce abnormal forms, by having the apex more or less deeply bifid; but a single specimen which I have obtained of a fertile frond, has about four inches of the apex of a frond proceeding from it, at almost a right angle, about two-thirds of its length from the caudex.

Eupteris aquilina, Eagle's-Wing or Common Brake, is ubiquitous; occasionally, in woods and hedge-rows, attaining the enormous height of from ten to twelve feet.

Ctenopteris Vulgaris, Common Polypody. When growing from an old pollard tree, its fronds hanging downwards, few things appear more beautiful; but not only there need we look for it, but we shall find it growing from old walls, roofs of houses, and banks. My observations this year, have shown me how very susceptible it is of either frost or droughts, in the earlier stages of its growth. The late frosts of this spring punished it most severely, and the want of moisture during the summer, in exposed situations, was equally prejudicial. It is still used, about here, as an emollient tea for coughs and catarrhs.

Gymnocarpium phegopteris, Beech Fern, is reported to be found in some part of the plantations surrounding Hefleton House. A very likely place, but I have not been successful in finding it there.

Cystopteris fragilis, Brittle Fern. Old churches in Dorsetshire, is given by Newman, as a station for this most interesting little plant; and I have some specimens, found by myself, growing on a bank, near a wood, six inches long.

Polystichum aculeatum, Prickly Fern, always appears to me to recall the head-dress of aboriginal Indians, that is, a corona of feathers. And how beautiful is the veneration. Was the form of the Bishop's crozier taken from it? In our hedges and woods it is abundant, and appears to be not unfrequently subject to an abnormal formation.

Polystichum angulare, Willdenow's Fern, is also found here; and my attention was first called to it by Mrs. Shipp, of Warcham.

Hemestheum thelypetris, Marsh Fern, is said to be found on Poole Heath.

Lastrea montana, Mountain Fern, may, I believe, be pronounced rare about here. There is a small stream running through a portion of Wool Heath, and on the banks of this there are two plants growing, the only ones that I am aware of. The length of the fronds varied from eighteen to twenty-four inches.

Lophodium Fanesecii, Bree's Fern, is to be constantly met with in damp woods and hedge-rows; certainly one of our most beautiful ferns; but it will bear very little exposure or handling until dried, as it withers very speedily after being gathered.

Lophodium multiflorum, Roth's Fern. This also, I think, may be pronounced with safety to be found here; but in this genus, the species appear to me to run so much the one into the other, that I speak with great caution of this and

Lophodium spinosum, Withering's Fern, which a friend has announced from specimens in my collection, as also,

Lophodium rigidum, Rigid Fern, which appears to be quite local, having only found specimens on one bank, in a damp boggy meadow on Wool-Bridge farm.

Dryopteris filix mas, Male Fern, is everywhere abundant, more especially the common form; but I have also had the gratification of finding the variety

D. f. m. affinis, in a wood at East Lulworth. There were only four or five plants clustered near each other, so far as I could discover. I have also specimens of one other variety, which does not answer to any description either in Newman or Moore. Abnormal forms are occasionally met with.

Athyrium filix femina, Lady Fern. This elegant and delicate plant is constantly to be seen, and although the forms may occasionally slightly vary, I have been unable to mark them as distinct varieties. This and the two preceding genera, as also the *Eupteris aquilina*, are indifferently cut and dried by the peasantry, to be used as litter for their pigs and cattle, where they have any.

Asplenium adiantum nigrum, Black Spleenwort, is not so abundant as many; but it is still to be met with in considerable abundance in hedges and old buildings. The finest specimens from Bindon Abbey.

Asplenium marinum, Sea Spleenwort, is occasionally found on the cliffs, facing the sea; but the only rock, to my own knowledge, is Tilly Whim, Swanage; and the plant, in growth, more resembles Newman's figure, marked "the Liverpool plant," but which is very different in size and the shape of the pinnæ from plants which the Rev. Walter Kendal procured for me, from Budleigh Salterton, Devon.

Asplenium trichomanes, Maiden-hair Spleenwort, is in great abundance at Bindon Abbey; and is rarely to be found on a bank by the roadside, which runs through a wood near Lulworth Castle.

Amesium ruta muraria, Wall-rue. This unobtrusive, but pretty little fern, seems to be generally distributed through the country; the rocks at Portland, and churches and old walls generally; seldom exceeding two inches and a half in length.

Phyllitis scolopendrium, Hart's Tongue Fern, of course, makes a prominent feature in every landscape; but so far as my slight experience goes, this district appears remarkably rich in the forms "lobatum," "multifidum," and "laceratum," of Moore; more rarely, "crispum." And from Blandford, I have seen some nice, but small specimens of "ramosum," of the same author. The villagers call it "Fire leave plant," and consider it excellent to apply to burns and wounds arising from them.

Notolepeum ceterach, Scaly Spleenwort. On a wall surrounding the lawn of Wool-Bridge house, are vast quantities of "*Amesium ruta muraria*," and amongst it is one solitary plant of the *Ceterach*; during this dry summer, it was quite dried up, but is now again green and vigorous. It is said to be abundant on Bere Regis Church.

Botrychium lunaria, Moonwort, is occasionally found on the heaths in the neighbourhood, as Poole and Wareham, &c.

Ophioglossum vulgatum, Adder's tongue, is to be found in considerable abundance at Bindon Abbey, and Stoke Meadows.

Osmunda regalis, Flowering Fern, is also in considerable abundance in the damp boggy meadows leading from Wool to Stoke, Wool-Bridge farm, and Highwood, near a pond. This year, a second series of fruitful fronds were thrown up, in August. Is not this unusual?

NOTES ON THE BOTANY OF NORTH LANCASHIRE.

BY J. P.

ONE lovely afternoon, towards the close of the last month, I paid a visit to the romantic locality of Nicky Nook; a hill well known, and of considerable eminence, situated about three miles N.N.E. from Garstang. The object of my visit was, to investigate the wild plants in the neighbourhood, coupled with a strong desire to revisit the cherished scenes of boyhood.

On the southern side of the hill runs a deep narrow valley, through which a small stream wends its tortuous and noisy course; forming, on its way, numerous pools and swamps; situations highly favourable for the growth of those rare plants so interesting to the botanist. The scenery of

this delightful glen is at all times beautiful and picturesque; such as a lover of nature delights to contemplate, or the painter and poet to pourtray; but at the season of my visit it was rendered highly so, as its entire surface was all but clothed with a rich profusion of wild flowers, the most conspicuous of which were those of the heath and hair-bell,—

“Oh! where is the flower that content may tell,
Like the laughing, the nodding, and dancing hair-bell!”—

whilst the air was perfumed with the fragrance of the wild thyme, that grows there in great abundance.

On entering the valley, at the foot of an old wall, I met with that elegant moss, *Dicranum Dillenii*, and near it, *Dicranum palustre*; the latter not in fruit. A little further on, amidst a dense mass of Bog Moss, (*Sphagnum obtusifolium*,) bloomed the pretty little Ivy-leaved Bell-flower; (*Campanula hederacea*;) and with it, its delicate companion, the Bog Pimpernel; (*Anagallis tenella*;) also the trailing stems of the Cranberry (*Vaccinium Oxycoccus*) were there, intertwining with that singular plant, the Sundew, (*Drosera rotundifolia*.)

“Mid the wild moor, or silent glen,
The Sundew blooms, unseen by men;
Spreads there her leaf of rosy hue,
A chalice for the morning dew.”

A dry, sandy bank was ornamented with a few plants of the Carline Thistle, (*Carlina vulgaris*.) This plant was rendered famous, from a well-known tradition, that the root was pointed out by an angel to Charlemagne, as a remedy for the plague that prevailed in his army.

“*Hypericum*, too, was there—the herb of war—
Pierced through with wounds, and mark'd with many a scar.”

Many of the pools were fringed round with *Bartramia fontana*, *Bryum palustre*, the Arrow grass, (*Triglochin palustre*), Gipsy-wort, (*Lycopus Europæus*), and the small Willow-herb, (*Epilobium palustre*.) At a little distance from the margin of the stream were scattered, here and there, *Veronica scutellata*, with small clumps of *Gnaphalium dioicum*. Higher up the vale, upon a dry bank, I picked up a large specimen of a common Mushroom, (*Agaricus campestris*.) measuring, in circumference, twenty-five inches; near to which, I also gathered, *Polytrichum commune*, *Polytrichum formosum*, and *Polytrichum juniperinum*. The stones within, and near to Leather-coat Wood, which terminates the valley, were invested with *Hypnum plumosum*, *Hypnum rutabulum*, *Hypnum ruscifolium*, *Bryum punctatum*, *Trichostomum aciculare*, and *Trichostomum fasciculare*. In the wood I also met with that stately plant the broad-leaved Heleborine, (*Epipactis latifolia*), along with the Sweet Woodruff, (*Asperula odorata*), among which the scarlet berries of the *Arum maculatum* were conspicuous objects.

I got to the head of the valley, just as the shades of evening were silently stealing over the landscape. Every sound was hushed, save the murmuring of the little brook, and the sighing of the gentle breeze, as it swept over the heath and brake. It was a fitting time and place for the mind to hold communion with its Maker, and realize those lofty feelings so beautifully alluded to, in the following lines :—

"Trees, and flowers, and streams,
Are social and benevolent; and he
Who oft communeth in their language pure,
Roaming among them at the close of day,
Shall find, like him who Eden's garden drest,
His Maker there, to teach his listening heart."

September 30th, 1854.

Review.

The Heart's Proper Element; or, How to Keep a Healthy Pulse. By WILLIAM KIDD, of Hammersmith. London: Groombridge and Sons. Price 1s.

MR. KIDD may select what title he pleases for his elegant little Book; but Nature will show herself, and without intending to write directly upon Natural History, his inherent love for that healthy amusement, most valuable for both body and mind, will peep out. In the fifth chapter of this little work, when speaking of the "beautiful harmonies of our globe," he thus writes: "other tribes, despising vegetables, are adapted to the elements; to day, to night, to tempests, and to the different parts of the globe. The eagle confides her nest to the rock, which is lost in the cloud. The ostrich, to the burning sands of the desert; and the rose-colored flamingo, to the mud of the southern ocean. The white bird of the tropics, and the black man-of-war bird, delight to sweep in company over the expansive bosom of the ocean; to behold, from the lofty regions of the atmosphere, the fleets of India sailing beneath them, and to encircle the globe from east to west, rivalling in rapidity the course of the sun himself. In the same latitude, the turtle-dove, and the parrot, (less daring,) travel only from island to island, with their young ones in their train; picking up in their forests, the seeds of the spice-trees, which they shake down from branch to branch. While these birds preserve an equal temperature under the same latitudes, others find it by following the same meridian. Long triangles of wild-geese and swans go and come, every year, from south to north, stopping

only at the hoary limits of winter. They pass without astonishment, over the populous cities of Europe, and look down with disdain on their fertile fields, which present furrows of green corn in the midst of snow. So much does liberty appear preferable to abundance, even in the eyes of animals!"

We have not space for more extracts, but we cordially recommend this little volume to our readers. They will find some wholesome truths in it, and the shilling spent in its purchase will be money well laid out. Mr. Kidd ought to be, and we trust is, a happy man; he deserves it, for he labours hard to make others so too, and, we believe, not without a large measure of success.

Proceedings of Societies.

PROCEEDINGS OF THE NATURAL HISTORY SOCIETY OF GLASGOW.—SESSION, 1854-55.

July 4th. The Annual General Meeting was held this evening, Dr. COLQUHOUN occupied the Chair. After the usual routine business, Mr. WILLIAM FERGUSON, of London, was unanimously elected an honorary member.

The meeting then proceeded to elect Office-bearers and Council for the ensuing year, when the following gentlemen were elected to fill the respective offices:

Mr. JAMES P. FRASER, F. G. S., President.

Mr. ROGER HENNEDY, Vice-President.

Mr. JOHN GRAY, Secretary.

Mr. ROBERT GRAY, Treasurer.

MESSRS. WILLIAM GOURLIE, THOMAS GRAY, and Dr. COLQUHOUN,
Members of the Council.

On the motion of the Chairman, a cordial vote of thanks was passed to the retiring Office-bearers, in which the meeting desired specially to acknowledge their obligations, as a Society, to Mr. Fraser, their late Secretary, for his untiring zeal and successful endeavours in promoting its interests, and in contributing in so many ways to the general prosperity of the society at large.

The meeting then adjourned to the first Tuesday in August.

August 1st. The ordinary Monthly Meeting was held this evening, the PRESIDENT occupying the Chair. The Minutes of last meeting were read and approved of.

Mr. HENNEDY exhibited some specimens of *Enteromorpha intestinalis*, from the Paisley canal, in general, a littoral species; but in this instance somewhat remarkable, from its inland habitat.

Mr. ROBERTSON exhibited a specimen of *Desmarestia herbacea*, collected floating near Moville, Ireland, by his friend, Mr. Sawers. Mr. Sawers remarks, that, in a letter received from Mrs. Griffiths, Torquay, concerning this species, he is informed that Agardh had pronounced this plant, after comparison with Russian specimens, to be undoubtedly *D. herbacea*, though the foreign specimens were much larger, and the lateral frondlets more fully developed.

Mr. ROBERT GRAY then stated to the meeting, on the authority of his friend, Mr. Sinclair, the occurrence of *Larus eburneus*, at Ailsa Craig. As, however, no specimens had been shot, the secretary remarked, that such statements coming before the society should be received with the usual caution, till an opportunity of verifying the fact, by examination, should occur.

The honorary president, Dr. SCULER, of Dublin, then read a Paper on the Structure of the Teeth and Jaws of the Fossil Fishes of the Cartilaginous Order. He opened the subject by giving an outline of the history of the Ganoid fishes, both living and fossil. "The order of Ganoids of Agassiz," he remarked, "is equivalent to cartilaginous fishes, with the exclusion of the Acipenseres or Sturgeons, which have been removed by Agassiz from the class of cartilaginous fishes, and placed near the Siluroids, with which they appear to have many affinities. From the cartilaginous nature of their bones, it is very rarely that any portion of the skeletons of Ganoid fishes is found in a fossil state. On the other hand, their teeth and spines occur in great abundance, and by the aid of a knowledge of existing species, afford means of classifying them according to their affinities. The Placoid fishes are arranged under the orders of Petromyzons or Lampreys, of which no fossil species have yet been found;—the Sharks, the Rays, and the Chimæras, of which numerous remains are found in the strata of every age. In common with other classes of extinct animals, they appear to be regulated by certain laws of distribution. The Chimæras are not found in the older fossiliferous strata, but chiefly in the newer secondary and the tertiary. A similar law, upon the whole, holds good with regard to the Rays or flat cartilaginous fishes. The order of succession in these fishes is, however, better seen in the succession of the different divisions of the great family of Squalids or Sharks. The Sharks are divided into three groups, viz., the Cestracean, with flat teeth for bruising their food; the Hypodonts, with compressed and obtuse teeth; and the true Sharks, with sharp cutting teeth. The Cestraceans are very abundant in the carboniferous limestone and coal formation; they then disappear, and, at present, we have only one living representative of this division—the New Holland Shark. In this respect, the Cestraceans resemble the Cephalopods with chambered shells, which

were so abundant in former ages, and of which we find very few species at present in existence. The Hypodonts, with compressed and obtuse teeth, are found in the newer secondary strata, and have now completely disappeared, leaving no representative. On the contrary, the true Sharks, with sharp teeth, were very rare in the older formations, and increase in numbers as we ascend to the present epoch."

The Doctor then observed, that the statement of Agassiz, that all the fishes of the older strata were heterocercal, that is, that the caudal vertebræ were prolonged to the extremity of the tail, did not appear to be entitled to the importance which has been assigned to it. As a general statement, it was valuable as a guide to the practical ichthyologist; and had the same importance as the fact that no deciduous horned ruminant is found in Africa, or that prehensile tailed monkeys are found only in America. As a philosophical generalisation it was very unimportant. Thus the cartilaginous fishes of the present day are as heterocercal as those of the coal formation; and in the modern Batrachians, the deciduous tail of the Frog, and the persistent one of the Salamander, did not, in like manner, appear of much consequence. Even in the higher Mammifers, it is found that some of the bats have persistent tails, while in others that organ had disappeared.

After some conversation among the members, and a vote of thanks passed to Dr. Scouler, for his highly instructive Lecture, of which the above is a mere outline, the meeting adjourned to the first Tuesday in September.

Sept. 5th. The ordinary Monthly Meeting of the Society was held this evening, Mr. FRASER, President, in the Chair.

The Minutes of last meeting having been approved of, Mr. GOURLIE stated to the meeting the fact of a rare sea-weed, *Cystoseira ericoides*, having been collected by him at Ayr-heads. Though, hitherto, rare in Scotland, this plant he found not unfrequently, during the months of July and August last, on this part of the west coast, apparently drifted away from its neighbouring habitats.

Mr. DUNCAN exhibited specimens of *Cuscuta epithymum*, collected by himself at Barrhill, near Kirkintilloch, hitherto apparently unnoticed in Scotland. It was found, as usual, parasitical on the flax, on which plant, Dr. Scouler remarked, it was found in great plenty in Germany. Mr. Duncan also mentioned his having collected *Sagittaria sagittifolia* in plenty, on the coast near Inchinnan Bridge.

The Secretary then exhibited several species of the genus *Pontia*, Fab., illustrative of the geographical distribution of these butterflies, and of the generic similarity in the species of various latitudes.

Dr. SCOULER then gave a Lecture on the vertebral development of the cranium. He stated, that about the commencement of the present century, the idea, that the cranium is composed of a series of vertebræ, occurred to

several anatomists; but the theory was, for the first time, carried out in all its details, by Oken, and since his views were promulgated, we have had as many theories as writers. The object of Dr. Scouler's Lecture was, to exhibit what appeared to him the difficulties which opposed themselves to the vertebral theory; and in doing so, he observed, in the first place, that there ensued the greatest discrepancy among the defenders of the vertebral theory as to the number of vertebræ of which the cranium is composed,—some contending for three, while others increase their number to seven. Whatever number we may assume, there is one objection which may be made to them all, viz., that the number of bony elements is not invariable in the crania of animals,—some having more, some fewer distinct bones. Thus the bones of the operculum are found only in fishes; and even the number of opercular bones is not the same in all fishes,—the numerous family of Siluroids having only three, while the greater number of fishes have four. Even the same bone performs different functions in different animals. Thus the squamous portion of the temporal in man, protects a part of the brain, and in him must be a portion of a cranial vertebra; while in the inferior animals it is excluded from that function. In like manner the mastoid, which is a portion of the temporal in man, becomes unimportant in the inferior animals; while on the other hand, we find in them a mastoid which is a portion of the occipital.

The Doctor further objected, that the brain differed from the spinal marrow, not only in its greater size, but also by containing many parts which do not exist in any portion of the spinal marrow; nor is it legitimate to suppose, that there should be no corresponding difference in the composition of the bony protecting parts. The nerves which proceed from the spine are merely motive and sensitive, while from the brain proceed also olfactory, optic, and acoustic nerves; and all the bony parts which protect these must be excluded from the composition of a vertebra. When these parts are abstracted, it will be difficult to construct a series of cranial vertebræ.

Even the spinal vertebræ themselves, to which we have to assimilate the cranial ones, present many difficulties in the way of this theory, for the number of bony elements varies in the spinal vertebræ in different animals, and even in the same animal the composition of a vertebra differs in different parts of the spinal column.

Business being concluded, a vote of thanks was passed to Dr. Scouler, and the meeting adjourned to October.

Oct. 3rd. The ordinary Monthly Meeting was held this evening, J. P. FRASER, Esq., F. G. S., President, in the Chair.

On the conclusion of the opening business, the President, with much feeling, announced to the members the sudden removal, by death, of one of their corresponding members, Dr. Landsborough, of Saltecoats. "Gentlemen,

before we proceed to the proper business of the evening, it becomes my painful duty to notice the loss, by death, of one of our corresponding members, well known for his scientific attainments, who was a highly valued friend with many of us, and whose name was familiar to all of us.

“Dr. Landsborough was born in Dalry in Galloway, in the year 1781, and was ordained minister of Stevenston in 1811. During the period of his ministry there, he employed his leisure hours in studying the natural history of his parish, and published a Paper entitled, ‘The Natural History of Stevenston and the Shores of Ardrossan.’ He continued minister of Stevenston until the disruption of the Church of Scotland in 1843; and since that period, he has filled the pulpit as Free Church minister of Saltcoats.

“During the long period of his active and very useful life, Dr. Landsborough contributed largely to the progress of the different subjects which he studied, by various papers and popular works; and though the laborious duties of a faithful minister of the Gospel allowed him little leisure for the active pursuits of science, I cannot allow this occasion to pass without paying a tribute to his virtues, and to the ardent—I may say enthusiastic—interest he took in the advancement of natural history. He exhibited, also, the influence of that kindly and social feeling which, in a minister of the Gospel, may sometimes become, in its indirect influence, scarcely of less importance than the instruction he may directly communicate.

(To be continued.)

ROYAL PHYSICAL SOCIETY OF EDINBURGH.

THE first Meeting of this Society for this, its Eighty-Fourth Session, was held in the Institution Rooms, York Place, on the evening of Wednesday, the 22nd November, 1854—Hugh Miller, Esq., in the Chair.

The following Donations to the Library were presented, and thanks voted to their respective Donors:

1. Proceedings of the Royal Society of London, parts 1 and 2 of vol. vii. From the Society. 2. Anatomical and Physiological Observations: By John Struthers, M.D.: from the Author. 3. On the Occurrence of Cinchonaceous Glands in Galiaceæ: By George Lawson, F.B.S.E.: from the Author.

MR. MILLER, as the retiring President, then delivered an opening Address, after which,

Professor FLEMING moved a vote of thanks to Mr. Miller, which was unanimously agreed to, for the very able and beautiful exposition of the present state of our knowledge of the geology of Scotland they had just heard, which he trusted they would be favoured with in a more permanent

form. The Professor also alluded to the great loss our Society, and science in general, had sustained in the death of Professor Forbes.

The second communication was a "Notice of an Interesting Habit, stated to have been observed of one of the Woodpeckers in California." By Andrew Murray, Esq.

Dr. LOWE moved that the thanks of the Society should be given to Mr. William Murray, San Francisco, not only for the facts contained in the curious communication which had just been read by Mr. A. Murray, but also for the various services he had, from time to time, rendered to the cause of physical science in general, making many of our naturalists acquainted with the varied natural productions of that distant land. The motion was unanimously agreed to, and Mr. Murray was requested to convey to his brother the best thanks of the Society.

The next was a "Verbal Notice of the *Lepidopterous* captures during the past season." By William H. Lowe, M. D., Convener of the Entomological Committee.

The fourth communication was, a "Notice of the Scops Eared Owl, *Scops Aldrovandi*, Will. Orn. Shot in Sutherlandshire (the specimen was exhibited)." By John Alex. Smith, M.D.

MR. MURRAY then read an extract of a letter he had received from Sir William Jardine announcing a capture of the Ivory Gull; "I have received this week," Sir William says, "a beautiful specimen of the Ivory Gull, *Larus eburneus*, shot at Thrumster, county Caithness, while skimming over some marshy pools. It was procured by Mr. Robert Shearer, Borrowston near Wick, and kindly sent to me by that gentleman, who has therefore added another specimen to the two or three which are known to have been killed in Britain."

Professor Gregory was balloted for, and unanimously elected a member of the Society, and the Society then adjourned.

The Retrospect.

On Thrushes alighting on the Backs of Sheep.—Statements which appear in THE NATURALIST, I apprehend, are open to criticism, when there appears a doubt as to their correctness. At pages 258—9 of vol. iv., there is a statement respecting "Thrushes feeding on the backs of Sheep," and that they appeared in *considerable numbers*. I am not intending to convey the idea that Thrushes never do alight on the backs of Sheep; but in the course of long observation, I never have seen even a solitary instance of the kind; and I have made inquiry of my Naturalist Friends, as well as of breeders of sheep, who all concur in my opinion that it is very rare for them to do so,

if they ever do at all. They have never witnessed such a circumstance; and when, as it is said by thy correspondent John Rose, they were in "considerable numbers," I incline to believe he may have been mistaken; especially as food on which these birds feed is plentiful in August, and they need not be driven to seek parasites on the sheep's back. It is notorious that Starlings feed on grass-land amongst the sheep, and are known to settle on their backs; and at the time mentioned, the young birds, in their gray plumage, may be mistaken for Thrushes. The former are often seen in large numbers; and the latter, I believe, rarely so. Until I hear of some confirmation of his statement, I must believe that thy correspondent was mistaken.—J. J. Fox, Devizes, 11mo. 6th, 1854.

The Querist.

Can any of your microscopic friends inform me of any good and easy way of separating *Desmidiæ* from Mud?

Of the nature of the starlike bodies in the cells of the stalk of the *Nuphar lutea*?

Of the nature of the perforated cells in the stalk of the Common Peony?

Of the nature of the globular bodies in the cells of the testa of seed of Common Privet?

Of the minute crystals in the cells of the testa of the seed of *Anagallis arvensis*? These are best seen before the seed is quite ripe. Whether the presence of starch is peculiar to certain families of plants? What is its peculiar use in their economy?

Of a mode of making permanent polarizing crystals? With me, all these, (and I have tried some hundred varieties and combinations,) with some very few exceptions, eventually break up. Does this arise from some chemical combination with the Canada balsam in which they are mounted?

Why a thin lamina of Mica, placed above a polarizing object, gives a ground differing in colour from that produced when it is placed beneath?

Has the beautiful texture of the *Petalonema alata* been anywhere figured?

What is the name of the *Puccinia* (?) now found on the leaves of the *Rhus Toxicodendron*?

With regard to Rhaphides, has Professor Queckett given, at the Microscopic Society, a second lecture upon them; and pronounced any opinion on their nature, mode of formation, &c.? I heard his first lecture; and learned from a friend, some long time afterwards, that he had not then given his second. The List of Polarizing Crystals given in his book, by the Professor, is very incorrect. The Nitrate of Lead, for instance, does not polarize; and

many of the others named are poor; whilst many much better polarizers are omitted.

Could some good mode of exchanging specimens among Amateurs be suggested? I have found the stock of mounted specimens in many of the London shops very limited in both number and nature; many of them very poor; and many good objects omitted. Specimens for sale, from Amateurs, are very coldly received, or declined altogether, because not mounted in professional style; although the objects themselves are, in many instances, much more interesting.—T. P. F.

May not the nest with six eggs, found by your correspondent, C. E. Smith, (see vol. iv. p. 238,) have been that of the Wood-Warbler? (*Curruca sibilatrix*.)
C. H. DASHWOOD, Thornage, November 11th, 1854.

The nest and eggs found last spring, by Mr. C. E. Smith, were doubtless those of the Sedge-Warbler.—E. K. B.

Can any of the readers of THE NATURALIST inform me of any mode of ridding my house of mice, with which it is infested, other than by keeping a cat, and by the ordinary mouse-traps? all of which I have tried, but cannot induce mice to enter them.—IDEM.

I believe there is no list of the Swanneries in the United Kingdom, to be found in any published Work on Ornithology. May I be permitted to suggest, that your readers should furnish, through THE NATURALIST, notices of any such with which they may be acquainted, with the view of obtaining a perfect list. The only Swannery with which I am acquainted, is the remarkably fine one of the Earl of Ilchester, at Abbotsbury, Dorset; which is said to contain, at the present time, seven hundred Swans. I have myself counted nearly four hundred at one time on the water. I have heard of another at or near Bandon in Ireland, but I have not seen it.—IDEM.

In reply to the query of the Rev. F. O. Morris, I beg to say, that Water-ton's triumphant Defence of the Ivy, may be found in the Second Series of his Essays, p. 68; without which Essays no Naturalist's Library can be said to be complete.—HENRY DANIEL, Teignmouth, Devon, Oct. 3rd, 1854.

Hyacinthus nonscriptus, (var. alba.) On the 9th of June, 1841, far remote from cultured earth or happy cottage, I gathered the blue and white var., in Cotcliffe Wood, four miles distant from Northallerton; in a situation where Nature had been left to her own resources,—associated with that lovely spring-flower the Wood Anemone, (*Anemone nemorosa*.) white and pink. In the same wood, one of our most celebrated British climbing plants, the Wood Vetch, (*Vicia sylvatica*.) rears

"Its pale and azure pencilled flower,"—SCOTT.

and would invite us to visit a place so peculiarly adapted to the Naturalist, in one of Nature's richest gardens.—D. FERGUSON, Redcar, Oct. 5th, 1854.



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No Communication can be inserted, unless the Writer sends us his name and address, for our *private* satisfaction.

Will J. C. T., A. A., and UNCAS, favour us with their names and addresses, in confidence.

We shall feel greatly obliged to any Correspondent who will furnish us with the names of any respectable BIRD-STUFFERS in his neighbourhood.

Many Contributions unavoidably stand over. Our Friends will understand that they are only postponed, not declined.

RECEIVED: A Supplement to Baines' Flora of Yorkshire, by John Baker, F.B.S.L., and John Nowell. London: Pamplin, 1854, p.p. 188, with a Map. 5s.

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A GLANCE AT THE FEATHERED RESIDENTS IN, AND VISITANTS
TO, THE GROUNDS OF TERRICK HOUSE;
WITH A FEW REMARKS FROM PERSONAL OBSERVATION,
UPON THEIR HABITS AND PECULIARITIES.

BY STEPHEN STONE, ESQ.

(Continued from page 223, vol. iv.)



HE who, from motives best known to himself has banished this bird from his "domain," may chance one day to meet with a procession of slugs, snails, &c., far outvieing in numbers, though not perhaps in audacity, the famous projected Chartist procession, which, with bold, undaunted front, and fixed, determined purpose, was to have marched upon the palaces of Westminster and Buckingham; albeit, snail-like, the individuals which were to have composed it quietly "drew in their horns," either at the "smell of gunpowder," or from having "smelt a rat." Saltpetre, when taken alone, has by no means an exhilarating effect; but when combined with sulphur and charcoal, its depressing powers are manifestly increased. Steel, when reduced to powder, is considered to be strengthening; but when this metal takes the form of sword or bayonet, its properties undergo a remarkable change: it then produces trembling of the limbs, nausea, and other disagreeable effects. So at the bare mention of these "*preparations*," our valourous Chartists found their strength give way, their spirits droop, and an aguish feeling assail them. So long as no impediments presented themselves, their bravery was great—their courage matchless; but a few hollow cylinders disposed here and there, or a sprinkling of blue uniforms, with "A. 1," "L. 99," and other mystic characters or devices emblazoned thereon, caused their valour to subside, their courage and bravery to melt away, like butter exposed to the fiery rays of a July sun. Or, as steel and nitre are powerful agents in counteracting the progress of disease, so with the addition of sulphur and charcoal, they produced in this notorious Chartist case, effects almost miraculous. Not a dose of the "*medicine*" was taken by them—not even a taste; the simple knowledge that it was provided sufficed to effect an instantaneous and a permanent cure of their several "*complaints*:" so the pain from an aching tooth almost invariably ceases, the moment the instruments of the dentist are exposed to the sufferer's view.

But to return to the point from which I have been wandering. He may flatter himself that this procession of slugs, snails, &c., is a deputation about to present him with an address, and a vote of thanks, for having removed, in direct opposition to his own interests, a most determined enemy of theirs; and had they been "Conservatives," such might possibly have been their mission; but being, as they unquestionably are, "Destructives," he will find that they are moved by no such feelings of gratitude; but that

they are simply marching forth to regale themselves without acknowledgement, upon the fruit and vegetables he has been at some pains and considerable expense to provide for them; and in the banishment of the bird in question, he has done what in him lay to secure to them the free and uninterrupted enjoyment of the feast.

These grounds, limited as they are in extent, annually send forth some fifteen or twenty broods of young Blackbirds, and a still greater number of Song Thrushes; and yet the fruit crops, instead of suffering any real diminution at their hands, (pardon the expression,) are, I am fully convinced, far more abundant than they would have been had these birds not been permitted to live. By the adoption of various simple devices, you may succeed in preventing them from making any serious havoc among your fruit, while no device or known precautionary measures will at all avail against the ravages of snails and other creatures, which the Thrush tribe is in an especial manner appointed to keep within proper bounds. Spare then, Oh! spare the Blackbird: he will amply repay you, even in a pecuniary point of view, for the trifling quantity of fruit he may consume; for be assured, that for every strawberry he eats he will be the means of saving you ten, or it may be, a far greater proportion still.

At our feet the ground is found to be strewn with tree mosses and other nest-building materials. Above us we perceive divers pieces of wool dangling from the forked branch of a beech; and on ascending to it we find, as we had anticipated, the nest of the Missel Thrush. (*Turdus viscivorus*.) This nest is outwardly composed of tree moss, wool, and a few small sticks, with the addition of some kind of cement; the lining consists, as I invariably find to be the case, of fine grasses; the eggs, usually five in number, are generally sufficiently distinct in character to be easily recognised, but I have some which it would be impossible to distinguish from a variety of the Blackbird's.

This bird is an early breeder; in ordinary seasons it begins breeding by the middle of March, and in very forward ones much earlier. I have found the nest in February; occasionally, however, it is not found till the middle of April. This is more particularly found to be the case after a long and severe winter, which causes most of our indigenous birds to become so out of condition, and so greatly reduces their strength, as to render them unequal to the task of nidification, and its attendant duties, at the usual period. The nest is to be found in orchards, gardens, and other frequented places, as well as in the lonely and unfrequented wood. I have found it within three feet of the ground, and I have often seen it as high as twenty, or even thirty; so far from the bird making any attempt at concealment, it not only, as a general rule, chooses the most conspicuous and exposed situations, but also, as noticed at the beginning of this article, is in the habit of strewing the nest-building materials about in such a manner as to draw the

attention of the most incurious to its "whereabouts." It likewise contrives to attract attention in another way, being seemingly anxious to improve every opportunity of doing so; for, on the appearance of a suspicious character in its neighbourhood, and not unfrequently, indeed, on the appearance of a character above suspicion, it delivers itself of a vast amount of angry expostulation; no swell-mob's man, caught in the act of picking pockets at a race or fair, is greeted with harsher sounds, or more hearty maledictions, than those which our friend *viscivorus* bestows upon cats, weasels, magpies, and all such "light fingered gentry," when, in quest of eggs, young birds, or other plunder, they have entered upon his "domain." Instances have been known, and recorded in THE NATURALIST, of this bird preserving a quiet and peaceable demeanour during the breeding season; such instances must, however, I think, be considered rather as exceptions, than as the rule.

The song of the Missel Thrush is loud, and, from its being one of the first to break the silence which winter imposes upon the feathered tribes, the notes are pleasing, although there is not much variety in them. Early in January, if the weather be at all mild, this song may be heard, and, by those who give but little attention to the singing of birds, is often erroneously ascribed to the Blackbird; a practised ear will, however, readily detect the difference. Its melody is given from the top of a lofty tree, and occasionally while flying from one tree to another. When the breeding season is over, families of these birds collect together after the manner of the Starlings, though not in such immense numbers; the flocks consisting of from ten or twelve, to thirty or forty individuals: these are not unfrequently mistaken for an early appearance of Fieldfares.

Missel Thrushes may be said to reside permanently with us; although a migration, or more properly, a dispersion of the young birds, unquestionably takes place: an All-wise regulation, which prevents any one district from being over-crowded; thus removing the liability to innumerable evils, which would otherwise constantly exist. In very severe winters, these birds, in common with others of the Thrush kind, suffer from an insufficient supply of food; they are, however, able to hold out longer than most of the other species, the Redwings especially, as might be expected from their being far more robust and hardy-looking birds. I never met with more than one instance in which this bird appeared to have been actually famished; while the poor Redwings often come to that deplorable end.

Low down in a juniper we find the nest of the Hedge-Warbler, or Dunnoek. (*Accentor modularis*.) Nests of this species are usually composed of small sticks, green moss, and wool, with fibrous roots and straws, or stalks of coarse grass. They vary much in neatness of construction; some are rather skilfully put together, and finished with great taste. The lining consists more frequently, perhaps, of cow-hair, than any other material: sometimes a sort of felt is made of moss and wool, and, as I have seen in a few instances,

of rabbit's down and moss, and this constitutes the lining: occasionally feathers are used; it will in general make use of any soft substance for the purpose that comes in its way. The most beautiful nest of this bird I ever saw, was situated on a small island in these grounds. A Duck of the far-famed Aylesbury breed, of cream yellow exterior, but with "under-clothing" of snowy whiteness, chanced to have a nest on the same island. The down which encircled the eggs offered to the longing eyes of our Hedge-Warbler attractions not to be resisted; she had therefore, with or without leave of the said Duck, appropriated to her own use as much of this novel material as sufficed to line her nest thoroughly. A more beautiful sight than the five clear blue eggs, reposing upon this immaculate and snow-white bed of down, could scarcely be conceived.

The Hedge-Warbler breeds early and late; beginning to build in March, and sometimes at a still earlier period, and continuing to do so till August, in which month I have found the nest with eggs. It usually places its nest within two or three feet of the ground, a faggot stack being a favourite situation; a dead thorn fence is often chosen; indeed no situation near the ground, which offers concealment, comes amiss to it. It sometimes produces as many as six eggs.

Modest and unobtrusive, this bird deserves to be a general favourite. Blameless and harmless itself, it entertains no suspicion of evil in others. If not subjected to persecution—and who can persecute so gentle a creature?—its confidence and familiarity become great, but still this familiarity is never carried to a degree to become offensive; like a thoroughly honest, upright, and straight-forward person, it neither courts nor shuns observation. Its song, though short and simple, consisting only of a few notes delivered in a continuous strain, has yet a sweetness and plaintiveness about it which render it extremely pleasing and agreeable.

(To be continued.)

THE SWAMPS OF THE MISSISSIPPI.

BY GEORGE DONALDSON, ESQ.

READ BEFORE THE NATURAL HISTORY SOCIETY OF GLASGOW.

THIS Paper, Mr. President, is more of a popular than a scientific character. This form I have been induced to adopt, partly from the example of some contributors to *THE NATURALIST*, whose rambles are frequently of a very instructive and entertaining nature; and with the expectation of its interesting some of the gentlemen at the table, and amusing others, I will attempt

to describe an EXCURSION which I made into the SWAMPS of the MISSISSIPPI, in the end of 1850.

Before doing so, I will endeavour to outline a few prior circumstances and observations, which, I hope, may not be considered irrelevant.

I presume it is generally known that my pursuits, on the American Continent, and over a great part of the West Indies, were entirely Ornithological. The desire to see the American Birds was principally acquired from reading the fascinating and brilliant descriptions given of them by Wilson; a name familiar to all of you, and which ought to be so to every Scotchman. His incomparable description of the Mocking Bird, (*Turdus polyglottus*), completely wrecked my mercantile ideas, and upset the entire science of pounds, shillings, and pence, with me. And as this occurred early in the spring of 1849, I immediately set about getting my guns in order,* and buckling some old clothes together. So that, in place of being found balancing my profit and loss accounts, on the 31st December, perched on a three-legged stool, in the city of Glasgow; I was wandering alone, through some of the western forests, far beyond the Mississippi, robbing the nests of the Guinea, the Downy, the Hairy, and the Golden-winged Woodpecker, and procuring specimens of the birds themselves. And such specimens, too, as can only be appreciated by being seen in the Academy of Science, in the city of Philadelphia. A collection which, on that continent, has no equal; and I question much if finer or more beautiful specimens are in the possession of any other Institution in the world. The members of this Institution, I am bound to say, are the very essence of courtesy; for not only do you obtain immediate admission, on application to any of them, but a request to be permitted to accompany you over it, for the purpose of pointing out the most remarkable objects, is not uncommon.

It is in this city that Alexander Wilson is buried, whose grave I visited very early the first morning after my arrival in Philadelphia; a rough sketch of which I have at present in my hand, and also some blades of grass which I pulled beside it. (See THE NATURALIST, vol. iii., p. 80.)

Were I competent to go into detail on the different Orders, Families, and Genera, not only of the department of science which came under my observation, but of others closely allied, I am afraid it would consume too much of the valuable time of this meeting, besides reminding myself of the opinion expressed by the author of "The Siege of Londonderry," who pronounced the work to be "a burden for an ass to carry." I have no intention, however, to trespass further upon your time, than to explain the appearance of that swampy region, and to give a general description of the

* I carried three guns with me during my travels; and, with few exceptions, I invariably used a double gun, made for me by Mr. David Young, gunsmith, in Glasgow, whose excellence as a practical tradesman is of the first class. His work, both as regards quality and finish, was thoroughly tested by the variety of work which this gun had to perform; and during which, neither a nail, nipple, nor spring gave way.

birds and animals which I found there. My principal object is to point out one of the latter, which may probably be received with some hesitation. The slaughter of the animal is not so much what I intend narrating,—although that certainly occupies a portion of this paper,—but it is more to establish the extraordinary tenacity of life possessed by the creature, and a few of its habits, which I am not aware are sufficiently known.

While travelling over the Eastern States, making myself practically acquainted with the beautiful Orioles, Fly-catchers, Tanagers, and Wood-peckers, so plentifully distributed in the primeval forests of that magnificent country; the temptations, though great, were not sufficient to induce me to tarry by the banks of the Delaware, and the creeks of the Schuylkill, the Susquehanna, and the Potomac, amongst the Swimmers, Stalkers, Plungers, Divers, and Skulkers, so appropriately named, by the late talented and eminent Professor Mc Gillivray.

I had always looked forward, with unceasing delight, to the time when I should paddle my own canoe in some of the western waters, which I had first an opportunity of doing in the secluded lakes of Miskeego and Muckwoago, during the Indian summer of 1849. My first appearance that way was both ridiculous and unfortunate. Indeed I was ashamed of it, when compared with the skill of some Winnibago Indians, who glided past me as though they had been shadows. My error lay in striking too quickly with my paddle, which invariably sent me too much to the right, then too much to the left, and occasionally round about altogether! I made a very brilliant finish to the exhibition, by snatching up my gun, and shooting crossways from my canoe, at a number of ducks that came flying past; which resulted in my upsetting the whole business, and suddenly appearing from underneath, on the far side of the cockle-shell. This was a lesson which I afterwards turned to considerable account.

The stillness which prevails at this particular season of the year, has charms of no ordinary character. It gives one an idea of solitude not otherwise easily realized. In place of the scorching and fiery summer, a delightful change occurs, which renders the atmosphere deliciously refreshing. It then assumes a hazy appearance, and a fragrance is imparted to it which, at any other season, it does not seem to possess. The beauty of a crimson sunset, reflected in an Indian lake, is a scene not easily forgotten. Its fading magnificence brings forth the Night-Hawk (*Caprimulgus Americanus*) in great numbers, to share its beauty, and to pursue its prey in countless circles. The Night-Heron, (*Ardea nycticorax*), as she descends from a lofty tree, and plumps, with a scream, into the reedy margin of the lake, tends to heighten the effect. The Whip-poor-Will, (*Caprimulgus vociferus*), announcing himself immediately after sun-down, in a tone well suited to the prevailing solitude, is followed by the hooting of the Owl, which proclaims the entire departure of the day. It was only when such darkness arose as prevented

me from seeing the muzzle of my gun, that I thought of the nearest way home; which I was often assisted in finding by the incessant sparkling of the Fire-Flies, the brilliancy of whose light frequently induced me to pause in contemplation of the wonderful economy of so extraordinary an insect.

This is also the principal season for Bee-hunting, which I had an opportunity of witnessing, as practised by the Indians. But as it is, no doubt, well understood, it is unnecessary for me to enter into any explanation.

As I have still far to travel, before reaching the Swamps, perhaps I may be permitted to notice a few of the playful and beautiful Squirrels which I had an opportunity of seeing.

The Red Squirrel, (*Sciurus Hudsonius*), which is very much like our own, is both plentifully and widely distributed over the Northern States, and through the Canadas. The Chipmunk (*Tamias striatus*) is a very interesting and active little fellow. He is principally a ground-squirrel, and far more familiar and unsuspecting than any of the other species with which I am acquainted. I recollect, on one occasion, whilst laying concealed behind a fence, watching for a shot at a Woodchuck or Ground-Hog, (*Arctomys monax*), several coming close to me, and one even jumping across my knee. And, while at the ruins of Ticonderoga, I was greatly amused, by observing a number of them actively employed in catching grasshoppers, all around me, and frequently within a few yards. The only portion of that insect which they appeared to relish, was the head and part of the body, which they so quickly removed, that I scarcely think the grasshopper discovered his loss till some time afterwards!

The first specimen of the Black Squirrel (*S. niger*) which I saw, was in Lower Canada; and my immediate pursuit of him, and disappearance over some stumps, and through some brushwood, will not soon be forgotten. I afterwards killed many fine specimens, none of which would measure less than twenty-six inches. But in no district could I find so many, in so short a time, as I did in the neighbourhood of the Falls of Niagara. Considerable manœuvring is required to shoot them during the leafy season of the year, they are so much concealed by the thick foliage. The mode of accomplishing this is, to keep quiet and listen well, and you will hear the nutshells, from which they have extracted the kernels, dropping through the leaves,—thus betraying the place of their concealment.

I found no Gray Squirrels (*S. Carolinensis*) there; but, on reaching the valley of the Genessee, they became very numerous. They are remarkably fine eating, as all squirrels are, and are hunted in the States exclusively for that purpose.

The Fox Squirrel (*S. vulpinus*) I first saw near Fox River, in Wisconsin. He is, so far as I know, the largest Squirrel to be found in that country. I have frequently, while seated on a fallen log in the forest, been much amused with the curiosity displayed by the black and gray Squirrels;

barking, and collecting around me overhead; and frequently descending the trunks, till within a few yards, which many of them found was rather too near to be safe. The Fox Squirrel is not so numerous as the others I have mentioned. I found him, however, afterwards, pretty far south, in the Southern States, associated with the Flying Squirrels, (*Pteromys volucella*,) the smallest and most interesting of the whole. They appear to become gregarious at certain seasons, occupying the same hole in a decayed tree, the entrance to which seldom exceeds the size of a dollar, being equally circular. This peculiarity readily betrays their hiding-place; and, from such places, I have frequently cleared out from three to five. The difficulty is to keep them out; for, after running round the trunk, they will pop in again, and that, too, within six inches of your nose. These holes seldom exceed ten feet from the ground. Regardless of the usual knockings upon the trunk which scare other Squirrels out, this little Dodger will pretend to be "not at home." The only way to detect the imposition, is, to climb the tree, and job him out with a thin wand.

The Prairie Squirrel, or the Goffer, as he is more frequently called, is the last on my list. He much resembles the Chipmonk; and, from having his home in the Priarie, he is never seen anywhere else.

(To be continued.)

INJURIOUS INSECTS, No. III. THE COMMON WASP. (*VESPA VULGARIS*, L.)

BY J. MC'INTOSH, ESQ.

THE Common Wasp, (*Vespa vulgaris*,) is a well-known enemy of the gardener, having been formed by Divine Wisdom to feed upon fruits and honey; and, unhappily, this marauding creature neither respects nor acknowledges the right of property in any one; and wherever it can gain access—whether it be to the store of the laborious Honey-Bee, (*Apis mellifica*,) or the choice fruits of the hothouse or the open garden—the one and the other are alike seized upon, and made subservient to its support. It is also ferocious and cruel towards its fellow-insects, even to cannibalism; still they are very lively, much more so than the Honey-Bee. The Wasp, like other insects which live in societies, is of different genders; the male and female are wholly intended for propagating their species, while neuters are for defending and supporting the young. Amongst Wasps there are a greater number of females than in Bees; and, instead of one or two having the duties of a

common mother to perform, we find in each colony about two or three hundred females; and these, in the course of the season, give birth to twenty or thirty thousand Wasps, all of which perish as the severity of winter sets in, with the exception of a few large females, destined to continue the race. These become torpid, in crevices of buildings, under the bark of trees, in holes, in dry hedge-banks, &c., till revived by the warmth of spring; when they issue forth, to give birth to a fresh progeny; at which time they may be seen prying into every hole of a hedge-bank, especially where mice have been. After she has fixed upon a proper situation, and made the necessary arrangements, she forms a number of cells, in which she deposits her eggs; from these eggs are produced larvæ, which the parent nourishes with the greatest care. These, after undergoing the necessary transformations, come forth as perfect Wasps, and assist their mother in constructing her curious architectural dwelling, and to provide for the wants of the future colony. In this way the colony becomes every day more numerous. As soon as the cells are finished, the females deposit in each an egg; all of which, in due time become perfect wasps! and sally forth to range the fields in search of prey. Thus they are ever busy, for no sooner has one brood become perfect than another is in progress; hence, from being a solitary individual, the mother finds herself, before the close of summer, surrounded with tens of thousands of her family.

When there is no honey to be found, they fall upon the most choice fruits of the garden, and are never mistaken in their choice; the apricot, for instance, is very palatable; it is the same with our most delicate pears, the ruddiest peaches, and the ripest grapes. The manner in which they excavate the sweet pulp and juice of fruits is no less extraordinary than the skill they show in excavating their subterranean dwellings. They commence by perforating the skin, which is most exposed to the sun. The aperture they make is barely sufficient for the body to enter. Here they cut away, with their saw-like jaws, such pieces as they choose to carry away as food for their progeny, until they leave the skin entirely empty, when they commence their work of destruction upon another. The entrance being once effected, particularly as regards peaches, apricots, plums, &c., several Wasps carry on the work of destruction within one fruit; and it appears to me, that such as assist each other in the work of plunder, are the inhabitants of the same colony. But for all this, they are not over dainty: nothing in the way of animal or vegetable food comes amiss to them. In your kitchen, they will dine off fowl, bacon, or butchers' meat, sugar, or preserves; and in your parlour will regale themselves before your very face with your wines, &c. If they alight in the shambles on their way, they have no thought of proceeding further; here they fall to work, and carry off bits of flesh as big as themselves. The same fate awaits the sugar casks of the grocer. In France, the butcher's consider the attendance of Wasps as useful for driving away

the flies from their stalls, and the author of "Hector St. John's American Letters" says, the farmers in some parts of the United States encourage both Hornets (*Vespa Crabo*) and Wasps, for a similar purpose. It is well known to naturalists, that Wasps are both pirates and cannibals: wherever they fly, like the eagle or the falcon, they form a desert in the air around them. They are particularly destructive to the Hive-Bee, (*Apis mellifica*.) and not only rob them of the fruit of their industrious labour, but murder the very makers; nay, they even devour their enemies. In these particulars, they resemble many of our own species. How many men are wasps in the highest degree, in respect to their fellow-creatures! The difference is, that Wasps are voracious by the natural instinct which impels them to provide for a numerous family; whereas man is a malefactor by choice, and in opposition to the reason that enlightens him.

The manner of constructing their dwellings, and the materials employed, must form the subject of another paper.

5, Middle-Street, Taunton.

PROGRESS OF THE SEASONS. THE OPERATIONS OF NATURE.—JANUARY.

BY WILLIAM KIDD, ESQ.

THEY love the country, and none else, who seek
For their own sake its silence and its shade.—Cowper.

To-day, in snow arrayed, stern Winter rules
The ravaged plain. Anon, the teeming earth
Unlocks her stores, and Spring adorns the year.—Thomson.

It is refreshing to have a periodical devoted to the better feelings of our nature,—one willing to record the genial feelings of its subscribers and readers. Such is THE NATURALIST. Between its two (ever) green leaves, have been treasured up many pleasing facts, which, but for such a medium, might never have seen the light. Lovers of nature, properly so called, are not a very numerous body; it must therefore be very delightful for them to possess a channel of their own, in which to breathe an interchange of thoughts.

The old year having passed away, and a new one having dawned, I have felt disposed to imitate my good friends the birds, by shaking my wings a little;—the more readily, seeing that the unusual mildness of the season has prematurely induced a tendency towards that feeling in man and animals generally.

Winter, known as such, has not yet appeared amongst us. In its stead, however, we have had a long succession of trying weather, injurious in its

effects upon the earth and most of its inhabitants. Sickness in every form, and death in its ruthless ravages, have been ever before our eyes. Seldom, indeed, has there been a greater mortality known, in a given time, amongst mankind and the lower animals. Even the very nature of the latter appears to have undergone a temporary change; for, up to December, the voices of most of our autumnal and winter songsters (in all quarters, I hear) have been all-but silent. I have noticed their general depression of spirit, times out of number. I felt that they, like ourselves, were suffering from some hidden cause common to us all.

The first magical change in this matter, in my vicinity, and for many miles around, was on the 5th of January, instant. On that morning, the moon lingered much longer than usual,—daring even to face the sun, and lovingly to dispute with him the sovereignty of the day.* The feathered tribe, to my amazement and delight, took a part in this unusual phenomenon. Robins, thrushes, blackbirds, hedge-sparrows, and wrens, for the first time became really “vocal,” and poured forth strains *by moonlight* that indeed “waked the groves.” I had, before, imagined them diminished in numbers,—wondered whither they had fled, (if alive,)—deemed our lovely park† deserted by the choir; and now all Heaven resounded with their music! I had risen at six, a. m., (my usual hour,) and was therefore present at the birds’ “early matins.”

I will not dwell upon this, beyond remarking, that the extraordinary effect I have mentioned, produced on the *physique* of the birds,—gifting them at once with a pure vocal melody, appears to have been general on this identical day. The same genial weather ruled from January 5th to January 8th, on which day, as I shall presently tell you, I too underwent a similar organic change.

I believe few persons can say, with truth, that they are in the habit of hearing the blackbird in musical voice, so early as the day I have named. There however he sat, perched up aloft, and might be heard discoursing music most melodious. I should note, too, that on and after this day our little birds exhibited all the amorous dalliance so pleasingly noticed by Thomson, in his “Spring.” They seemed to become mated as if by magic; to have wooed, courted, won, and espoused their hearts’ idols, without many of the formal “protestations” usually resorted to on these “interesting occasions.” Early incubation is evidently the order of the day.

Here I must leave the lover of nature to his vivid imagination, which can easily fill up the details of what I merely shadow in outline. Such a change in so short a time, from a state of apathy and sickness to one of Nature’s

* This phenomenon was yet more apparent on January 9th. The moon was visibly rejoicing in the high Heaven until nearly a quarter to nine, a. m., her glorious rival good-temperedly suppressing his more powerful beams, until she had bade the day Adieu!

† Ravenscourt Park,

holidays, arrayed in the pleasing charms of early Spring, (brilliantly shone upon, too, by the mighty Sol, in his increasing strength,)—may be conceived, though not expressible in words. Sickness began to wear itself out quickly. The birds felt the influence of Nature, and so did I. On Monday, Jan. 8th, I rose as usual. The metropolitan carriage called for me at eight o'clock. I was habited, and ready to start. But there was something so genial in the atmosphere, which touched my spirits, (whilst opening the garden gate to make my exit,) that I felt impelled to shake my head at the coachman. This signified that he was to go on without me. "Out of sight, out of mind," thought I, as I retraced my steps, determined to do something out of the common way.

Now the voices of the birds were every moment becoming more musical. It was too much for me. "A walk," shouted I, mentally,—“and a long one!” The air freshened, and the sun peeped out, as my mind became decided. An over-coat, weighing some eight ounces, was thrown on my shoulders; a trusty stick was my companion; and away, at once, I bounded.

I love fair company, and I delight in genial spirits. But *now*, the walk I meditated was of such dimensions, that I felt prudence must be exercised. If I chose to be eccentric, and do something out of the common way, it was not right to compel others to do so too. "Spring," I argued, "will soon be here; and then we will

"‘‘Together range the fields.’’"

The door opened on its hinges; with an elastic spring I touched the ground; the garden gate closed behind me; and ere the church clock had chimed half-past eight, I was a mile on my rambles,—alone, but in good company. My heart was full of guests.

I hardly need tell you, that I have *matériel* enough in my head and mind, connected with the scenes of this day, to fill two complete numbers of *THE NATURALIST*; but, as your readers and myself are "birds of a feather," and can by latent affinities of mind get at each other's inmost feeling (for Nature works alike in the breasts of all her admiring children) under such circumstances,—I forbear enlarging on *minutiæ*. The day was gloriously fine. The birds were both numerous and musical; and everywhere I found that happy innocence which is so inseparable from the quiet repose of Nature.

I will now indicate the tortuous course of my footsteps. First, I sped away through the orchards at the rear of Turnham Green Church; sitting, ever and anon, on a gate or stile, to enjoy the voices of the many hundreds of little choristers by whom I was environed on every hand. Thence, I proceeded onwards by the side of the Thames, which was "confluent as a mirror, and still as death," until I reached the noble gardens of Kew,—revelling, as I went, in the many winter flowers peculiar to this district. The *Laurustinus*, in particular, was abundant, and most luxuriant in blossom. To describe the melody of the thrushes, blackbirds, and robins, in Kew Gardens, would be

impossible: I will not attempt it. Next, I visited Isleworth; returning, after a long stroll, to Brentford, and wandering thence through a number of orchards, until I reached Great Ealing.

Here, amidst other cruelties practised on birds, I observed a large, upright, narrow cage, (painted and made to resemble a house,) suspended beneath a window. In it was immured a harmless sky-lark. I should mention, that this house-cage *had no light admitted* through its sham windows; but was dark and gloomy. In front, near the bottom, was a small door, or opening, allowing the poor bird to come forward and stand partially on an arched platform. The space, however, was so wretchedly narrow as to prevent "the bard of Heaven" from squeezing more than half his body into it,—his tail and hinder parts remaining behind in his dark prison. A front of wicker to this little outlet completed the lark's "happy habitation." And there was this noble fellow,—this herald of the sky,—doomed to drag out his wretched life! Restless on the wing, and listening to the happy voices of his "free" brethren just above his head,—there he hung, an object indeed for pity! O man! man! what a hard-hearted wretch thou art! I would here notice, also, the very cruel practice prevalent at this season everywhere, of hanging song-birds out of doors. The drafts of air constantly passing through their wiry dwellings, not only inflict on them serious injury, but render their innocent lives burdensome to them.

Before leaving Ealing, a sensible appetite pressed itself upon me. I as sensibly satisfied it. A rural meal was it, and a frugal one; rendered doubly enjoyable by the possession of a happy heart, (full of absent friends brought near,) and a body greatly benefited by exercise, a change of air, and a change of scene. But the glass of ale is emptied, and I must progress.

I now stretched out to the lovely locality of Hanger Hill, and was accompanied all the way by lovely little choristers. I had seen a funeral procession pass me on the road. I had looked in at one of the windows of a mourning coach. I had seen a countenance wan with bitter grief. Methought, as our eyes met, *that* heart was broken. Meditating upon this, the bell "tolled;" and the solemn sound, borne on the breeze, caught my ear. I sighed. Again, that sound! Aye,—nor did it cease for full three quarters of an hour. *Three* funerals, I had heard, were being "performed;" and the knell of each vibrated on my ear and heart, as I receded in the distance. * * *

As I passed, I peeped in at Twyford Abbey, and its beautiful sequestered grounds. A good-natured, arch-looking face had seen me enter, and smiled at me as I came out again. It seemed to say,—“You are a traveller; tired, but heartily welcome.” I felt, somehow, that I was; and followed that face. The face led me into a snug little apartment in a snug little hostelry, called the “Fox and Goose,” and placed before me such a delicious glass of sparkling ale, that I drank *it* and the pretty face’s “health” at the same time. *Honi soit qui mal y pense!*

Alpertou was the next place I passed ; and proceeding a considerable distance along this pretty road, (turning to the right at the extreme end,) I found myself near Sudbury, and not quite three miles from Harrow. *Of course*, I could not help strolling to Harrow ; and a delightful view indeed I obtained of it ! I did not tarry long on the hill, knowing how fearfully fast the time was flying. However, I saw quite enough to fill me with delight.

My mind now seemed sweet upon Willesdon, some few miles distant ; and turning upon the hill—"to take a last fond look,"—forward I went. I reached the pretty little village of Willesdon about half-past two ; and after viewing "the rookery," the renowned tomb of the mother of Jack Shepherd, and other local curiosities, it was time to be again moving. Remembering the fair hand of mine host's daughter, that had once before gracefully ministered to me at the "White Hart" here, that same hand was again solicited to pour me out a glass of sherry. It kindly consented. In the strength of this I walked some four miles further, and passing through the dear little village of Acton, just as the birds were "singing Vespers," I enjoyed another most delectable treat. Here, homewards, I was musically entertained the whole distance,—the Thrush and the Blackbird apparently striving which should sing the other to sleep.

I may here generally remark, that the Wren, Robin, Chaffinch, Dicky Dunnock, (*Accentor modularis*), Thrush, and Blackbird, were to day the principal songsters. They were numerous and very lively. The Sky-larks were only tuning up, and taking low flights. Their song was *not* matured, nor joyous. It very soon will be, for all Nature is progressing. Our good mother—God bless her!—is only slumbering ; vegetation already shows what she is *thinking* about. We must not altogether wake her up yet. There must yet pass over her head some heavy clouds, some rough winds, some mountains of snow, some bodies of ice. All these will only set off her lovely handiwork to increased advantage.

As yet we have had no Winter. I found all the roads and lanes through which I passed perfectly clean and dry for the most part. Gnats were born during the day in countless generations, and were seen eddying in giddy flight under many a hedge. The rooks were all alive, and lively ; a few repairing their old nests. Starlings, by thousands, passed over my head, and all savoured of activity.

In sheltered situations I met with an abundance of China roses, wall-flowers, periwinkles, and the heartsease, (*Viola tricolor*). Golden saxifrage, too, and stonecrop, (*Chrysosplenium*), met my eye in pleasing variety. The bramble was in full leaf. In one or two situations I noted the red dead-nettle, in flower ; also, in several places, budding snowdrops, and crocuses. The catkin, too, of the hazel, was unfolding, and the leaves of the honeysuckle were out. The pretty little heads of the daisies were perceptible, but they were not in full bloom. All nature was in motion.

When I say that my ramble extended some twenty-four miles, (I was nearly nine hours on foot), *some* idea of my enthusiasm for Nature's loveliness may be formed. I went out, suffering from the remnant of a seven weeks' cold, cough, and catarrh. Bronchitis, and its ever-attendant "hacking cough," had well nigh finished me; but I returned with all the freshness of renewed youth—regenerated both in body and mind. Tired I was—very; and *so* hungry! My *Lares* and *Penates* had foreseen this. Such an array of welcome dainties graced the 'family table on my arrival *chez nous*, that "appetite did *indeed* grow by what it fed on!"

Thus ended the 8th day of January, 1855—a day in the year's calendar that I shall ever fondly cherish. May many others be tempted to follow my example; and thus prove that pleasure is not confined to cities, nor to any one season of the year. Only let us keep company with Nature, and our life must be a happy one. Chequered it may be—for change is our lot; yet will it be so sweetly seasoned with variety as not to be simply bearable, but truly enjoyable. Let me add, that a good night's rest completed all that any honest heart could desire. I awoke on the following morning "like a giant refreshed."

I am now writing on January 15th; and this is the first notable appearance of a coming Winter. It is a hard frost, and there are evident symptoms of snow in the near distance. Yesterday, however, (January 14th), was a fine Spring day. The sun rose, with a radiant countenance of joyous energy, and all Nature shared the benefit. The small remnant of the reigning moon, (her last appearance but three), again faced her glorious rival, and lingered in the sky till she was fairly dazzled, and *obliged* to retreat. How lovely she looked, as she faded from sight! As for the birds, *they* seem prepared, now, to do battle against any rigours of Winter that may await them. They have had a rare time of it, so far. But everything in its season.

"Some people" say, we shall suffer for all this; and they begin to grumble at Nature for dozing whilst she should be fast asleep. They forget her ladyship's amiable disposition, and lose one half the enjoyments of life by doubting her daily growing power. She *must* be active. It is her *nature*, her delight to be so. Besides, will she not, by way of compensation, return us blessings a hundredfold for any trifling little disappointment we may have had? Aye—indeed will she! Only let her fairly wake up, and put on one of her winning smiles—how will the earth at her silent bidding teem with new beauties, and our hearts be filled with shame at their want of faith in her goodness, power, and superior judgment.

Nature's reproofs are always gentle—therefore are they effectual. Her works are works of love and good will—therefore is all creation happy. Oh, that we could *all* take a leaf out of our dear mother Nature's book!

Hammersmith, Jan. 16th, 1855.

Review.

A Supplement to Baines' Flora of Yorkshire ; with a Map. The Flowering Plants. By John Gilbert Baker. *The Mosses.* By John Nowell. London : Pamplin. 8vo. pp. 188.

It is with sincere pleasure that we notice the appearance of a Supplement to the valuable Flora of Yorkshire, by Henry Baines, which was published in 1840. The original work contained a long list of Flowering Plants, Ferns, and Mosses, and an extensive series of localities for all the rarer species was given: in addition to which, on many occasions, the peculiar insects to be found on a plant were mentioned; thus rendering the book a very much more interesting one to the general Naturalist than any other Flora with which we are acquainted. During the fourteen years which have elapsed since the publication of the Flora, considerable additions have been made in both departments of the work; and these additions, together with the progress of Botanical Science, by which species and varieties have been better discriminated, rendered the issuing of a Supplement, if not necessary, certainly most desirable. Under these circumstances Mr. Baines determined to bring out the present work, and, as he states in a prefatory note, "Mr. Baker, with the assistance of Mr. Nowell, having with great kindness undertaken the management of the matter, (a task for which their labours in the special field of research, and their acquaintance with the general literature of the subject have rendered them so eminently fitted), I may with confidence introduce the Supplement which they have furnished to the notice of my friends and the public, as exhibiting not only a very complete list of the botanical treasures of the county, so far as it professes to treat, but also as a work calculated to lead its readers to the study and investigation of general principles." The Supplement commences with a few pages of introductory remarks, explanatory of the plan adopted in the work, together with a general summary of the contents; and this is followed by an interesting Essay, by Mr. Baker, on the Physical Geography of the County. We then have a list of all the Flowering Plants and Ferns which have occurred in Yorkshire, the arrangement of the genera and species being that of the fourth edition of the Catalogue of the London Botanical Society. In this section we have 1155 species enumerated, of Flowering Plants, and 53 Ferns; the British list only including 1445 and 60. Numerous localities are given for the rarer species; but those for the commoner are omitted. The work is in fact what it purports to be, a Supplement; and although a valuable addition to, it does not supersede the original Flora, which will still be found most valuable for reference. The Plants are arranged under the heads of Native, Denizen, Colonist, Alien, and Incognit; a plan which gives us at a glance much

valuable information. The Flowering Plants and Ferns are succeeded by the Mosses; and the same plan and arrangement is continued through this portion of the book, which bears internal evidence of great care and labour having been bestowed upon it: 330 species are enumerated; a large number, but it is probable that more may yet be added, as these interesting plants become more generally sought after.

We regret that our space will not allow us to enter more into detail; but we confidently and warmly recommend this work to our readers: to those who have known Mr. Baines as long as we have, some fifteen years, our recommendations are unnecessary; to those who are strangers to him, we may safely say that his care and accuracy are only equalled by his diligence in seeking information; and that his acquirements in Natural History generally are very extensive. The present work will insure Mr. Baker and Mr. Nowell a lasting reputation, for the able manner in which they have thus done justice to Mr. Baines' discrimination, in selecting them as his assistants in producing the present elaborate volume.

Proceedings of Societies.

PROCEEDINGS OF THE NATURAL HISTORY SOCIETY OF GLASGOW—SESSION, 1854-5.

(Concluded from page 21.)

“Dr. Landsborough has given to the world several popular works on natural history, among which may be mentioned, ‘A Popular History of Zoophytes,’ ‘A Popular History of British Sea-Weeds,’ and a pleasing work entitled ‘Arran, and its Natural History,’ the shores of which island were a favourite dredging ground for him, as being a prolific field for the Naturalist. There are also many interesting Papers from his pen, scattered up and down the pages of the ‘Annals and Magazine of Natural History.’ He was an associate of the Linnean Society, and his known attachment to the objects of our pursuits, pointed him out in the early days of this Society as well worthy of being enrolled in the list of its corresponding members. Shortly after his election, he communicated a short Paper on *Hippothoa divaricata*; and more recently, a Notice of an Excursion from Gibraltar to the Shores of Tangeirs,—the only Papers we were privileged to receive. All, however, who went to Saltecoats to pursue their researches, were sure to receive from him a most hospitable welcome, and much valuable information.

"The amiable disposition and unaffected piety of Dr. Landsborough, secured to him the love and admiration of all who knew him. Few men have ever gained the respect and affection of a large circle, both of private and scientific friends, to so great an extent as Dr. Landsborough. His life was spent in the simple and earnest search of knowledge among God's works, and the equally simple and earnest teaching of his Word to those among whom he dwelt, as their pastor, for the long period of forty years.

"He died on Tuesday, the 12th day of September last, in the seventy-third year of his age."

These remarks were fully reciprocated by the members present, by a general expression of regret at the loss they had sustained.

Mr. THOMAS REID was then proposed as a resident member in the usual form, as was also Mr. G. J. LYON.

Mr. GOURLIE exhibited specimens of *Hierochloe borealis*, Rœm. and Sch., and *Holosteum umbellatum*, Linn.; the former found abundantly near Thurso, by Mr. Robert Dick; and the latter was communicated to him, by Dr. Leesching, as having been found on a hill near Bowling.

Dr. SCOULER, the Honorary President, then delivered a Lecture on the Skeleton of Birds. He said, that in each of the great groups of the animal kingdom, there are two facts to be taken into consideration. A certain uniformity of plan and structure is seen throughout the whole series; and this plan, although never departed from, is modified so as to fulfil a great variety of functions. In some families the uniformity of type preponderates, and is, so to speak, more rigidly adhered to; while in others, the plan is almost lost amongst the rich variety of structure and function. Thus the structure of the brain is almost the same in every species of bird, while in fishes it varies in almost every genus. In reptiles, from the Tortoise to the Lizard and the Serpent, we have almost every variety of form and function under a common type, while in birds the diversities are few and comparatively unimportant.

The bird may be defined a vertebral animal, adapted for flying; and from these two data we may deduce in an *a priori* manner, all the peculiarities of their organisation. The muscular energy necessary to move the body through the air requires, as an essential condition, that the bird should be a warm-blooded animal, as the animal heat and muscular power are in the direct ratio of the oxygen consumed. The power of flight also requires that the mass of the viscera should be in the centre of the animal, and hence the broad sternum for their support, which exceeds in magnitude that of any mammiferous animal. The vertebræ of the neck are numerous, to give the requisite mobility to the head,—the chief organ of prehension. On the other hand, the head has neither teeth nor masticating apparatus, as this would disturb the centre of gravity; and, accordingly, the function of mastication is performed by the stomach. Another condition is, that birds must be oviparous; and this again depends on their nature as aerial animals. The

utero-gestation and its complement, the mammary glands, are incompatible with a flying animal. Even the Bat offers no objection to this view. Hence as birds have no utero-gestation, so have they no diaphragm; nor could they be sucking animals, as they have neither fleshy lips nor tongues, nor even an epiglottis.

A vote of thanks was then tendered to Dr. Scouler, and business being over, the meeting separated.

Nov. 7th. The ordinary Monthly Meeting was held this evening, the President in the Chair.

The Minutes of last meeting were read and approved of, and Messrs. THOMAS REID and G. J. LYON were unanimously elected resident members.

The President, having vacated the Chair, which was then filled by Dr. ARNOTT, read a Paper in continuation of his former ones, on the Geology of Campsie District, entitled, "Some further Illustrations of the Geology of Campsie." He commenced by recapitulating some of his former remarks on the topography and general physical features of that interesting district, showing the prevailing characters of the strata, and giving an outline of the principal beds with their included fossils, and a general description of the boulder drift, with several proofs of the prominent part it had played in the conformation of that locality. He then opened his present Paper by relating the ascending order of the strata, stating, that the lowest beds are the old red sandstone rocks of Killearn, immediately above which lie the Ballaggan beds, which in their turn, are covered by the strata seen at the Linn of Baldernock, the lowest in which fossils are there found, consisting chiefly of Cyprides, &c., and the remains of fishes. The next in ascending order are the Craigenglen beds, where we have both marine and fresh water fossils; the next are those at Milburn, which are marine beds only; atop of these lie the strata of the Schiliengow Quarries and the Glorat Lime Works, which beds are both marine and fresh water; the strata of the Corrie-burn are the next highest, and they are all marine; and the highest we have in that district, are found at Samson's pit, being both lacustrine and marine.

He then described that fine section exhibited at the spout of Ballaggan, which, he said, is composed of a series of thin beds of impure limestones, sandstones, and shales. These strata are upwards of one thousand feet in thickness, and are seen resting on the old red sandstone, in some of the glens near Leven. The number of beds which constitute this section are about two hundred and fifty. These beds form the base of the north hill towards the west, and are covered by tabular masses of trap; the strata do not rise against the trap, but they dip slightly into the hill near it; from which fact we were led to the conclusion, that the vein through which the trap had been ejected, must have its position at some distance, and the liquid mass must have overflowed the strata without disturbing them much. The Ballaggan beds were long thought to contain no fossils; but Mr. Young had discovered,

in a thin bed of sandstone near the foot of the section, the remains of a reedy kind of plant, somewhat resembling a Calamite. This, however, is the only fossil that has yet been found in them.

Mr. Fraser then proceeded to describe the junction of these beds with the old red in Auchinreath glen, and to trace them in two of the glens to the spout of Ballaggan, giving, at the same time, a description of them as he had seen them in these two glens. He went on to prove, that the range of hills, called the Campsie and Kilpatrick hills, have been the principal elevating causes of all the strata in that district; and he thought it also evident, that all the strata which have been carried up with these trap elevations have been removed by denudation. He was not aware of any of the Ballaggan strata being seen between the section he had described and the river Leven. The higher beds of the Campsie strata seem to have extended nearly to Kilpatrick at some former period, for the very same limestones and shales which are found in the south hill and Craigen glen, with the characteristic fossils, are found there flanking the hill-side. The trap hills run nearly north-east and south-west, so that all remains of the carboniferous system to the west is only a portion of its very lowest beds between Ballaggan and Auchinreath glen, being a distance of upwards of twelve miles. The whole of this distance is covered by a range of trap hills, or rather hillocks, which have suffered from denudation to a very great extent, for they have all evidently been connected at a former period, though now they are separated by considerable hollows; the strata, therefore, which have been carried up by the trap, and then removed by denudation, cannot be less than from fifteen hundred to two thousand feet in thickness. The Ballaggan beds, as already stated, are upwards of a thousand feet in thickness, and the higher beds on the south hill are more than five hundred feet.

He then proceeded to describe, at some length, the beds in their ascending order, proving, as he went along, the frequent depressions and elevations to which that district had been subjected, as evinced by the interstratification of fresh water and marine beds, besides other evidences which were mentioned. He then turned the attention of the Society to the great mineral axis of the district, pointing out its peculiarities, and proving from that axis itself, that the trap eminences were the work of a series of protracted outbursts, and the whole district one of constant change,—now elevated, now depressed. He proved that the valleys of Strathblane and Campsie were valleys of denudation, and brought forward some very striking and interesting facts in support of his statements, and vividly elucidating his reasoning.

Mr. Fraser then wound up a long Paper, of which the above is but a faint outline, by stating, that the mind is overwhelmed in attempting to comprehend, or even form a vague idea of the vast eternity which has rolled between the time of the first existence of these strata and their present state.

tered, twisted, uplifted, and hollowed-out condition;—what changes have they witnessed, what a history unfolded, the dates of which no chronologist can fix, and compared with whose youngest eras, his oldest are but as the events of yesterday!

Business being now concluded, the meeting stood adjourned, as usual, to the first Tuesday of the ensuing month.

Miscellaneous Notices.

The Pine Marten. (*Mustela Abietum*).—On the 6th of November I had a fine specimen of the Pine Marten brought to me for preservation, which had been found the day previous, in a trap on the grounds of Captain Fox, of Girsby House, distant about seven miles from Louth. They are, I believe, far from common in this part of the country; I have, however, been informed by the Rev. Geo. Jackson, of Reston, that one was taken some years ago, in Burwell Wood, about four miles from Louth.—JOHN BROWN, Louth, Nov. 8th, 1854.

Singular Capture of the Peregrine Falcon. (*Falco peregrinus*).—On Thursday last, a labourer at work near the coast saw a Peregrine Falcon strike down a Gull, (*Larus canus*), a few hundred yards from where he stood. He immediately approached the spot with caution; and so intent was the Falcon upon her prey, that the man actually put his foot on her back, and held her down, whilst he untied his garter, with which he secured his prize. The Peregrine has been admirably stuffed by Mr. Bolitho, of Plymouth, in the attitude of killing the Gull; and is now in the possession of W. E. Matthews, Esq., of Gnaton Hall, a few miles from Plymouth, near which place the capture was made.—JOHN GATCOMBE, Wyndham Place, Plymouth, December 21st, 1854.

Late Appearance of the Ring Ouzel. (*Turdus torquatus*).—*Apropos* to Mr. Round's remarks, in the number for November, on the migration of the Mountain Thrush, I may mention that I saw one at Herrington in this parish, on the 13th of November, 1853. It must have been on its way southward, for there is no natural habitat of these birds within a great many miles of the place. First, I saw a bird *flying* to a neighbouring hill, and remarked to myself how like its flight was to that of the Ring Ouzel, but thought it impossible it could *be* one. But, some hours after, I saw either the same bird or a companion quite near to me, on a footpath at the bottom of the hill beforenamed; and a *Ring Ouzel* it certainly *was*. The hill is not unlike a south-country down, such as those on which White used to see these Ouzels at Selborne. When the bird hopped into an adjoining plantation, for a while it kept turning round and round on a branch in an affected way, shuffling its wings much like a Turkey Cock. The only note it gave resembled the

"tack" of the Wheatear or Whinchat. I have seen no account of the bird wandering southward so late as this, by three or four weeks.—GEO. SOWDEN, Newbottle, Houghton-le-Spring, Durham, Nov. 22nd, 1854.

Nest of the Grasshopper Warbler. (*Salicaria locustella*).—On the 26th of May, this year, I found the nest of this bird, with six eggs, beside a well-frequented footpath in a field in this parish. It was among the briars and thick grass of the bank. The nest is usually described as placed so cunningly, that it can with difficulty be found. But I had no difficulty, after once my attention was attracted by both birds flying off in a suspicious way.

IDEM.

Note on the Cuckoo. (*Cuculus canorus*).—The last time I heard the Cuckoo this year, was on the 24th of June, at *two o'clock, a.m.*, near Harrogate. I had heard their, to me, pleasing notes almost daily, up to that date.—B. R. M., Driffild, September 30th, 1854.

Departure of the Martin. (*Hirundo urbica*).—On Monday morning, the 2nd of October, whilst busy in my garden soon after sun-rise, my attention was drawn to the busy movements of the Martins; and, looking towards a neighbouring villa westward, the whole of its roof and chimneys appeared covered with these birds. Turning towards my own house, the same was going on; and upon the roof of another house, southward, the same. Thousands upon thousands of these pretty birds were in rapid gyration, their white breasts showing in soft harmony in the clear blue of a cloudless sky; even the weather-vane and its four cardinal pointers, upon my own house, were literally covered. I withdrew from the busy scene to breakfast about eight, with the intention of returning in as short a time as possible; but the arrival of the postman during that important meal, with a greater than usual supply of letters, so diverted my attention, that it was nearly nine o'clock before I got out; when, to my great disappointment, not one of my interesting friends was to be seen. All had taken flight; and the day, though very fine and warm, closed without a single individual having been seen; nor have I observed one in this neighbourhood since. I regret extremely being absent at the moment of their departure, as I should have much liked to have observed the "order of their going." I was not aware until now, that the migration of this portion of our feathered society was so sudden and simultaneous. Heretofore, I have understood their disappearance to be more gradual; but on this occasion there has appeared to me a movement more demonstrative of instinct and prescience, than any in my previous knowledge.—THOMAS FULLER, Lansdown Villa, Charlcombe, near Bath, Oct. 6th, 1854.

The Ringdove. (*Columba palumbus*).—A freshly laid egg of this bird I found in this neighbourhood, on the 5th inst. Although well-known as a late incubator, I believe the bird will rarely be found to breed after August, and the present instance may reasonably be ascribed to the remarkable fineness of the present season, and to the secluded position of the nest, viz., in a

plantation of firs in the centre of a wood. At page 43, (volume iv. of *THE NATURALIST*,) the eggs of this species are said to have been found in the same wood, towards the end of September; but the author omits to give the precise date, nor does he state that the eggs were addled! If in this condition, I can assure him that a dozen such might have been procured any time during the last month. Not having the ability of this gentleman, of *leisurely* strolls, I was obliged somewhat hurriedly to leave the wood; or might possibly have discovered, even at the late date given above, other still-occupied nests, judging from the noise and actions of the birds disturbed, but the investigation of which I must resign to the great ornithological experience of your former correspondent.—H. E. S., Thirsk, 8th, 10mo., 1854.

The Spoonbill, (*Platalea leucorodia*,) near *Louth*.—On the 17th of November, a young male specimen of the White Spoonbill was brought to me, which had been shot at North Cotes, on the 15th of November.—J. BROWN, Louth, Dec. 18th, 1854.

Occurrence of the Little Stint, or Sandpiper, (*Tringa minuta*,) at *Fraserburgh, Aberdeenshire*.—There was shot, by a gentleman residing in Fraserburgh, on the 26th of last month, a splendid specimen of the above little elegant *Tringa*. It was, at the time, feeding amongst a flock of Dunlins, or Ring Dottrels. If I remember right, I think it is stated by Sir W. Jardine, Bart., in the *Naturalist's Library*, that this species is not recorded as having been obtained in Scotland, as far as he was aware. That it is a scarce species, at least that it is but seldom procured or even seen in this part of the country, I am well aware; but I know of two, besides the one here alluded to, which have been killed in this neighbourhood.—T. EDWARD, Banff, Oct. 7th, 1854.

Bartram's Sandpiper. (*Totanus Bartramius*.)—A fine specimen was shot near Cambridge, on December 12th ult. We hope to give particulars in our next.—B. R. M.

The Querist.

How to destroy Mice. Your correspondent, E. K. B., who, at p. 24, vol 5, of *THE NATURALIST*, complains of the ravages of mice, may soon get rid of them. It is evident they are "up to the trap." Cats, too, only keep them in check. *Carbonate of Barytes* is the *only* panacea for the domestic evil. This (in powder) is tasteless and scentless—and moreover a most active, deadly poison. Let a little of it be mixed with some fresh butter and moist sugar. Spread this on some household bread, two days old. Cut some thin slices of "bread and butter" from it, and place them (in sections) among the "runs" of the enemy—filling also with the tempting dainty, the holes into which they scamper on being pursued. Three days will in most cases clear the

premises. *If they do return*—not probable, repeat the “hospitable spread;” and their race will shun you, hereafter, as if you were their hereditary foe. Their instinct very closely resembles reason; I have found it so. They never enter my house now; although my neighbours, right and left, entertain whole armies of them. The common “Carbonate of Barytes” is to be used, price 6d. per lb. It is to be had in London, *genuine*, of Mr. Bolton, Chemist, 146, High Holborn. “A little of it goes a very great way.”—WILLIAM KIDD, Hammersmith, January 12th, 1855.

Lastræa collina is mentioned in the December number of THE NATURALIST as occurring at Moseley Pool. As I do not know this fern I would feel obliged by Mr. Twinn giving its more usual name. He also terms the Hawkweeds *Pilosella*. This is not a generic, but a specific name, and therefore not likely to convey a clear idea of the writer's meaning. I am aware that one species of hawkweed is called *Hieracium pilosella*.—J. B. DAVIES, Edinburgh, December 10th, 1854

Venessa Antiopa at Blackheath. Permit me through the medium of your periodical to acquaint Mr. Drury, Jun., that one of the specimens of “*Venessa Antiopa*,” caught at Blackheath, and mentioned in my communication of January last, was taken at Montpelier Row, in September 1852, and is, I have no doubt, the same as the one mentioned in his communication which appeared in THE NATURALIST for last August.—L. SHIELDS, Blackheath, October 4th, 1854.

Unknown Eggs. Are not the eggs described by Mr. C. E. Smith, in THE NATURALIST, vol. iv. p. 238, those of the Sedge Warbler? (*Sylvia salicaria*?) H. BUCKLEY, Calthorpe-street, Birmingham, November 6th, 1854.

I shall be much obliged if any of your subscribers can give me the Botanical name of a plant provincially known as the “Owl's Crown.” It is said to be indigenous to light, sandy soils, disappearing upon the land being clayed, and to have been a favourite food of the Great Bustard.—THOMAS SOUTHWELL, Fakenham.

On separating Desmidiæ from Mud. In answer to the inquiry as to the best mode of separating Desmidiæ from mud; I believe the following to be the best mode, which is suggested by Mr. Ralfs, in his work on Desmidiæ, and which I give you in his own words.

“If a species be much mixed with mud, I take a saucer, fill it with earth made into a paste and water, and cover it with a piece of linen; over this I spread a thick layer, containing the Desmidiæ, and allow it to become nearly dry; within a few days the specimens will form a stratum on the linen, and may be scraped off with a knife.”—C. G. LENNY, Ramsgate, January 2nd, 1855.

On removing Grease from Insects. Can any of the readers of THE NATURALIST inform me of the best way of taking the greasy substance out of the bodies of insects?—W. C. H., Cambridge.



TO ADVERTISERS.

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MR. FOXCROFT begs to return his sincere thanks to the Trustees of the British Museum, the Nobility, Gentry, and Clergymen, and also, particularly to the Members of the Entomological Society, for the patronage he has received for a number of years, and he takes the liberty of informing them and others, that he intends making another journey into Scotland, for the purpose of collecting insects, during the Summer of 1855; he purposes devoting seven months to collecting in England and Scotland, commencing early in March, and intends collecting through England on his way to and from Scotland.

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OPINIONS OF ENTOMOLOGISTS.

"THE ENTOMOLOGIST'S ANNUAL" cannot fail being very useful, both as an annual *resumé* of new discoveries, and as making Entomologists acquainted with each other. I wish it every success, and have ordered four copies to give to young Entomological friends.—WILLIAM SPENCE, 18, *Lower Seymour-Street*.

I think the "Little Stranger" is the very thing we want, and you may depend upon me making such a welcome novelty known.—T. J. BOLD, *Newcastle-upon-Tyne*.

I have just received "THE ENTOMOLOGIST'S ANNUAL." I am greatly pleased with it, especially that portion of it which contains a list of the new insects discovered since 1835.—REV. JOSEPH GREENE, *Dublin*.

The "ANNUAL" is very much wanted, and should have the certain effect of stimulating to further observation and research. I hope it will meet such a body of readers as will induce its being continued.—HUGH COLQUHOUN, M.D., *Glasgow*.

It is certainly a good design, and will tend to keep many a country collector up to the mark who might otherwise have fallen in the rear: for it has hitherto frequently been a matter of no small difficulty to get information about novelties.—J. W. DUNNING, *Cambridge*.

I will do all I can to promote the sale of the "ANNUAL," because I think it deserves support.—G. R. WATERHOUSE, *British Museum*.

I think it an exceedingly successful and *useful* publication.—T. V. WOLLASTON, *Brompton*.

I have but little fear, after it is once known, of its having a large sale.—JOHN SCOTT, *Stockton*.

I am much pleased with the work: it is a book that was sadly wanted.—R. H. STRETCH, *Banbury*.

The "ANNUAL" is excellent, and will, I expect, set many a net that has long laid dormant a-going again.—GEORGE WAILES, *Newcastle-upon-Tyne*.

If the thousand collectors that I estimate there really exist in England are to be reached; it must be through such half-crown publications as yours.—EDWIN LEES, *Worcester*.

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Emberiza calcarata. Temminck. A fine specimen of this rare visitant was netted at Postwick on the banks of the Yare, January 19th last.—R. D.

Guestwick, Feb. 15th, 1855.

NOTICES TO CORRESPONDENTS.

Communications have been received up to February 15th, from H. G. ADAMS, Esq.—H. T. STANTON, Esq.—S. W. NORTH, Esq.—W. AINLEY, Esq.—C. FRYER, Esq.—W. KIDD, Esq.—H. SMURTHWAITE, Esq.—R. H. MEADE, Esq.—Capt. T. BROWN—S. STONE, Esq.—Mr. T. CANE—UNCAS—H. WOOD, Esq.—G. R. TWINN, Esq.—Mr. R. DAMON—T. G. ATKINSON, Esq.—G. DONALDSON, Esq.

Contributions have been received up to February 15th, from Mr. J. H. DAVIES—T. S. RUDD, Esq.—S. STONE, Esq.—J. MC'INTOSH, Esq.—T. SOUTHWELL, Esq.—A. H. RANNIE, Esq.—Rev. F. TEARLE—H. M. MOUNCASTLE, Esq.—O. S. ROUND, Esq.—J. P.—W.—T. G. BONNEY, Esq.—J. GARLAND, Esq.—Mr. S. BOUNSALL—Mr. W. PARFITT.

No Communication can be inserted, unless the Writer sends us his name and address, for our *private* satisfaction.

Will J. C. T. and A. A. favour us with their names and addresses, in confidence.

We shall feel greatly obliged to any Correspondent who will furnish us with the names of any respectable BIRD-STUFFERS in his neighbourhood.

Many Contributions unavoidably stand over. Our Friends will understand that they are only postponed, not declined.

The Editor begs to announce to his Correspondents, that he has arranged with his Printer, so that the Author of any Paper can have copies of his Article sent him by post at the following rates:—

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BARTRAM'S SANDPIPER. (*TOTANUS BARTRAMII*, TEMMINCK.)

BY THE REVEREND F. TEARLE.

A SPECIMEN of this bird came into my hands on the 16th of December last, having been shot on the 12th of the same month. It was purely an accident which made me the owner of it, and doubtless, but for my love of ornithology, it would have been carried from the field in which it was shot to the kitchen of the owner of that field, where a very summary process would have for ever extinguished all knowledge of Bartram's Sandpiper having been shot in that neighbourhood. As a Golden Plover (and an excellent Golden Plover, too, if Audubon is to be believed) it would have been sent to table, and thus have furnished another instance of the ignominious end to which, no doubt, many a rare and valuable species has come, through the want of a little knowledge of one of the most interesting subjects in the world. It will afford me considerable satisfaction if the rescue of the bird from oblivion shall, through the pages of *THE NATURALIST*, or in any other way, directly or indirectly, contribute to the extension of our British Fauna, or to the increase of our information regarding those it already comprises.

The specimen was first seen by some labourers engaged in thrashing, near a farm yard, about ten miles from Cambridge. Its peculiar and plaintive whistling cry first attracted their attention, and, on watching it, they observed that it frequently alighted and ran along the ground in an apparently weak and exhausted state. For this reason one of the men fancied he could catch it with his hat, and began to chase it across the field. But as soon as he approached tolerably near, the bird rose and flew round in large circles above him, uttering at intervals its wailing note. He soon relinquished the pursuit; but a gamekeeper's boy, who lived in a cottage close by, took out his father's gun and shot it. It allowed him to approach several times within gunshot before it rose. Standing erect, it seemed to watch and wait for him; then ran a short distance, and stood as before—after the manner of a bird that wishes to decoy an intruder from its nest. It eventually rose and was brought down.

The field had been newly ploughed; and notwithstanding the statement about its apparent weakness, I suspect it found an abundance of food, (though I have been unable to ascertain of what kind), for it was plump and weighty when brought to me. I am also unable to state its sex; though I imagine, from Audubon's plate, that it must be a female. Mr. Savill, who stuffed the bird, found it impossible to speak with certainty on this subject, owing to the contused or decomposed state of the generative organs.

The extreme length is twelve inches and a quarter; expanse of wing, twenty-four inches and a quarter; height from the top of the head, when standing erect, eight inches and a half; beak, one inch and an eighth; tibia



and tarsus, each two inches. The upper mandible and the tip of the lower, dark brown—remainder, dull yellow; the top of the head, and back, dark brown, each feather edged with a narrow border of buff; the scapularies, also, dark brown, with a broad border of buff; the neck and breast, dull buff, with arrow-headed streaks of dark brown; throat, chin, belly, thighs, and under tail-coverts, white; the primaries, rump, and upper tail-coverts, dark brown, inclining to black; the two middle tail feathers, brown, with dusky bars—remaining feathers of the tail, bright buff, with whitish tips, and irregular marks of dark brown; secondaries, long, and protruding crosswise over the quill feathers; under surface of the wing, white, with numerous and beautiful pencillings of a pale greyish ash-colour. The outer and middle toes are connected by a small web, which extends in the form of a thread-like membrane, to their extremities. The chin feathers are remarkable, and extend, like a small tuft of fine wool, more than half an inch along the under surface of the beak.

Trinity Hall, Cambridge, Feb. 2nd, 1855.

Mr. Tearle very kindly forwarded us a coloured drawing of this fine bird, from which the plate in "The British Birds," by the Rev. F. O. Morris, will be coloured. According to Wilson, the food consists of beetles, and other insects: and he further states, that they are remarkably plump birds, weighing upwards of three quarters of a pound. The following note, by Mr. Gould, which we extract from the "Illustrated London News," gives all the necessary information respecting this fine addition to our Fauna. We are indebted to J. McIntosh, Esq., F. P. Morris, Esq., T. G. Bonney, Esq., and H. Smurthwaite, Esq., for notices of the occurrence of this specimen.—B. R. M.

"I am in receipt of your note containing a drawing of Bartram's Sandpiper, lately killed in Cambridgeshire, and also the accompanying letter from Mr. Tearle. This is only the second instance that has come under my notice of its occurrence in England, and the species must now be included in our Fauna. The other British specimen was killed in Warwickshire, a year or two ago, and is now in the collection of Lord Willoughby de Broke. Continental writers have long noticed Bartram's Sandpiper as an occasional visitor to Europe; but the only instances of its having been found in England are those above mentioned. I have lately received, from the Directors of the Museum at Sidney, in New South Wales, a specimen of this bird, which had been killed near Botany Bay. This is the first, and at present only known instance of its capture in Australia. The species is evidently a great wanderer, its true habitat being the northern portions of America, from Canada, throughout the United States, to Mexico; in all which countries it is very common. It is a bird of very peculiar form, resembling in some respects that of the members of the genus *Edicnemus*, and in others the *Tringa*. Its habits also partake of those of the birds of both those groups. The peculiarity of its form has caused it to receive many generic appellations—among them,

Tringa, *Totanus*, *Actiturus*, *Tringoides*, *Bartramia*, and *Euliga*. Of these, perhaps the term *Actiturus* (proposed for it by Prince Charles Lucien Bonaparte) will be the one adopted, in which case the bird will stand as *Actiturus Bartramius*, Bonap. An interesting account of the habits and economy of this bird will be found in Audubon's "Ornithological Biography," vol. iv., p. 24.—JOHN GOULD.

THE SWAMPS OF THE MISSISSIPPI.

BY GEORGE DONALDSON, ESQ.

(Continued from page 32.)

THE difficulty of approaching animals, particularly in exposed situations, is occasionally very great; and at the present moment it would be a difficult matter for me to recollect the different characters in which I have appeared, and the many ruses to which I have resorted, to accomplish this: the most successful in which I ever appeared was in that of a hog, rooting; disguised in a buffalo robe, and crawling upon all fours. I practiced this with great success amongst the Ducks and the Waders, by the side of some of the western rivers, and also in Canada; but, my débüt in this character amongst the *first* gang of wild Turkeys which I saw, was particularly unfortunate. I came upon them in an old clearance, when they were feeding upon grasshoppers, (I should rather say locusts). They regarded me with much suspicion, and without giving me an opportunity of explaining my true character, they flew off, leaving me to practice the deception upon a more unsuspecting party. The information which I subsequently received, and the practice which I afterwards had in hunting these beautiful birds, completely guaranteed me from going supperless to bed, while living on the banks of the Missouri, or in the bottom lands of the Mississippi; and I can now impart the secret to you, being far beyond the hearing of the Turkeys, though, neither in this sense nor in that of *seeing* have they any superior, with the exception, probably, of the Turkey Buzzard, which in my opinion possesses the latter power beyond any living creature.

The ruse, then, for decoying Turkeys, in the months of August and September, for the purpose of shooting them, is, to provide yourself with a small bone, called the *Yelper*, which is extracted from the wing, and then betake yourself into such places as Turkeys are known to frequent (or to "use," as the Americans say); and then carefully to conceal yourself under a quantity of brushwood and leaves, and commence *calling*. If within hearing of a Turkey, she will immediately reply; a repetition of the call from time

to time will bring her at last within ten yards of you, and not unfrequently attended by her whole brood; and if a man cannot in this way provide a good Christmas dinner for himself and his friends, he does not deserve ever to be permitted to partake of a roasted Turkey.

While spending some time amongst the Indian islands, and the Rice Lakes in the Canadas, where ducks were very numerous, particularly the Wood Duck, (*Anas sponsa*), I was let into the secret of how to bring them within such a distance as proved fatal to many of them; and this was effected, after shooting three or four, by placing them in a creek close beside each other, in the attitude of swimming, the head supported from below by a rod stuck into the mud, the point of it being thrust into the base of the under mandible, and as I lay concealed in a small flat boat amongst the rice, I could kill just as many as I wished.

Bitterns of great size and beauty, occasionally passing, came in for a share of what was going; the Loons (*Colymbus glacialis*), or Great Northern Divers, which I was told were numerous at certain seasons, I had no opportunity of seeing; but in judging from the bottoms of many seats which I found covered with their skins, I had no reason to doubt the statement; and this *Heathen* substitute, to my taste, was quite a triumph over the Morocco and hair cloth of modern contrivance.

The (*Gallinula*) Water Hens were numerous; and the Musk Rat (*Fiber Zibethicus*) I met occasionally with; not being prepared for meeting such an overgrown specimen, as I supposed, of an *old acquaintance*, my astonishment was naturally great on picking out of a marsh one which I had shot: an observation from a person who accompanied me settled my surprise, by remarking that I stared as if I had never seen a Musk Rat before: and in this he was right. The number of dead shells which I found strewed in every direction by the sides of the marshes, and deposited occasionally upon tufts of grass, I was told upon inquiry, were the work of *this rat*, which corresponds admirably with many of the habits of the Raccoon (*Procyon lotor*) in this respect, and also of the common Hog; all of which are formidable competitors of the most enthusiastic conchologists; and many fresh water shells, which there would be difficulty in otherwise obtaining, are fished up by these collectors and cracked upon the shores; which, in my opinion, accounts for many mutilated specimens that find their way into this country. On a shelling excursion which I once made with Mr. Clark, in Ohio, a gentleman well known by reputation to some present, we came upon a whole herd of swine fishing, and which, from his apparent indignation, I have no doubt he would have gladly destroyed in the most wholesale way. I must pass over a long catalogue of other families, such as Raccoons, Snakes, Skunks, Opossums, Wood Chucks, Lizards, Passenger Pigeons, Pelicans, Whooping Cranes, and Humming Birds, &c., &c., all of which I bagged during my excursion; reserving the particulars for some future occasion.

The appearances, then, which the *lowlands* of the Mississippi present are innumerable openings from the river, called Byous; these sluggish waters, it is said, often extend back in many places for upwards of a hundred miles, and lie covered with a greenish slime until they are evaporated back to the clouds by the heat of the sun.

A description, of which I once took a note, conveys my idea most accurately of what they are; and this description I will quote here, with some little alteration, which I hope will not affect a picture that I consider has been so faithfully expressed.

"Nothing in reality or imagination," says the writer, "can exceed the unusual scenes to which these dead waters open; a filthy stench arises incessantly to fill the air with pestilence; huge, uncouth alligators lazily float upon the surface, or bask in the sun, above the mashed prairie cane, reeds, and sword grass, which form innumerable small islands within these lagoons; unclean fish tamely lie in the depths, and enormous mud turtles (*Testudo Caretta*) can be seen slowly disappearing amongst the rank *materielle*; mottled snakes dart across the floating and vegetating green; mammoth bullfrogs utter their unearthly croakings from the fallen trees; and, where the soil rises with sufficient adhesion, the funereal cypress rears its death-associating trunk, and hangs its bows with the sombre weeds of crapy moss; unknown vegetation starts up from mud and atmosphere, and increases to a rankness which tells of death and dissolution. Approach the shore, and the moccasin snake lies coiled at your feet; clouds of mosquitoes blacken the air and fix upon you; spiders, with bodies as big as wallnuts, red, yellow, and brown, draw their cords from tree to tree; a death-like stillness reigns, only to be broken by such noises as one hears with a distempered brain. Here is also the retreat of the Turkey Buzzard, which comes to digest the offal he has gathered from afar; the screeching of the owl, as he sneaks from his gloomy retreat, accompanied by the whirring and whizzing of myriads of bugs and beetles, adds to the horrible effect of this polluted region: the scene might with truth be more highly coloured. Old Charon's craft was a pleasure boat, and his passengers were favoured with excursions of cool summer's sailing, in comparison with what is experienced here." There is one thing I consider much out of place, and that is a large, delicate white flower, like the water lilies of our ponds, but nearly the size of a hat crown; the stems grow from the bottom oftentimes ten or fifteen feet from the surface, and spread their broad leaves and open their pure white petals upon the water's surface. And the necessity of drinking such water as these lagoons contain, in the absence of any of better quality, poisons the blood, and prepares the system for the scourge of yellow fever, from which there is so little chance of escape. If there are parts of the earth yet unfitted for the residence of man, but undergoing a gradual transformation, *this* is certainly one of them. And few other situations, in my opinion, are better

calculated to illustrate some of the great geological changes at present in operation.

A morass of this character is well qualified for the production and support of many foul specimens of animal life, whose existence is amply sustained and wonderfully developed by the abundant variety which Nature has so liberally provided for them. Specimens of which must be daily taking up their positions amongst the vast accumulating masses of vegetable corruption, and whose fossil remains at some distant age are quite as likely to afford a subject of as grave discussion amongst geologists and comparative anatomists as ever the revelation of the *Iguanodon* or the *Pterodactylus* has done; and I cannot but think that the production here of either the Catfish, or the Stingaree (species of the *Silurus*), which are so very numerous in the Swamps of the Mississippi and the Alabama, would create some astonishment, the *sting* of either seldom failing to produce giddiness and vomiting; and frequently insensibility, and occasionally death itself. I was stung by one in the swamps of the Alabama river, in the month of December, 1850, which had the immediate effect of rendering me sick, with an inclination to vomit. The sting consists of a serrated spine, situated underneath the pectoral fins, which can be elevated at pleasure; in size it corresponds with the appearance of the fish; they grow to an enormous size, and in the markets of Louisiana I have frequently seen them weighing upwards of 140lbs. The voracity of this fish corresponds well with his expression, and on one occasion I was nearly dragged head first into a lagoon of the Alabama, by one of them seizing hold of a duck, from which I was washing the blood, preparatory to cooking,—a *Science*, by the way, in which I never made any great progress.

The clouds of ducks up the sloughs and byous of the Illinois river, and also at the mouth of the Yayoo confirmed me in my anticipations of what I might expect in the Swamps of the Mississippi; a day or so afterwards I observed a small boat which had just emerged from them, on her way down the river *loaded* with a variety which caused me to open my eyes wider than I have ever done since; an inquiry as to how I was to get to the “promised land” was received either with suspicion or inattention; but upon a further trial I was told by the men that they merely traded for the ducks at the mouths of the byous, and that they knew nothing more of the men than handing them the dollars and receiving the birds. The following day I joined a boat going up for the same purpose, and fraternized with a Ducker, who took me on board without any hesitation. I told him I had no meat, but that I had some money.

“I have the meat without the money; and I reckon,” says he, “that’s just *whaar* we differ.”

(*To be continued.*)

A GLANCE AT THE FEATHERED RESIDENTS IN, AND VISITANTS
TO, THE GROUNDS OF TERRICK HOUSE;
WITH A FEW REMARKS FROM PERSONAL OBSERVATION,
UPON THEIR HABITS AND PECULIARITIES.

BY STEPHEN STONE, ESQ.

(Continued from page 28.)

IN the delightful weather we had in the month of March last, particularly about the time of the full moon, when the nights were almost as bright and beautiful as the days; a period which all who seek the genuine and never-cloying pleasures Nature incessantly yields; who know how to appreciate and admire the ever-varying beauties she at all seasons discloses; and who, in the calm enjoyment of these beauties, pursue "the noiseless tenour of their way," remote from cities black with smoke, and blacker still with crime; must undoubtedly remember; I several times, during an occasional moon-light ramble, heard the notes of the Hedge-Warbler warbled forth between eleven and twelve o'clock at night. Sweet as is the song when heard on ordinary occasions, it fell with ten-fold sweetness on the ear at this unusual hour; breaking, in a delightful manner, the "solemn stillness" which reigned around; lending an additional charm to a scene which before was indescribably lovely; and creating a thrill of the most exquisite pleasure, a pleasure which it is the peculiar privilege of the lover of Nature to enjoy. Oh! who would waste his existence in midnight revels; ruin his health, and wear his life away amid the smoke, and dust, and din of towns; when,

"Far from the madding crowd's ignoble strife,"

he might obtain infinitely purer joys and more substantial delights than are to be found in the gay saloons of the wealthy and fashionable, or in the haunts of dissipation? Who that might breathe the pure, fresh, health giving, invigorating air of mountain, hill, or valley, would choose rather to inhale the noxious vapours and poisonous exhalations arising from city sewers, and drains? Who that has tasted the refined and elevating pleasures the love of nature yields, would wish to return to those gross and debasing gratifications in which the voluptuary is prone to indulge.

To these birds may, with truth, be applied the line,—

"Their sober wishes never learnt to stray;"

few being of more stay-at-home habits than they. 'Mid summer's heat and winter's cold, as well as throughout the more temperate seasons of spring and autumn, they are constant frequenters of one chosen neighbourhood. If they indulge themselves in periodical changes at all, they are almost as limited in extent as those of that model of a country parson, Dr. Primrose,

the renowned and worthy "Vicar of Wakefield," and of his lady, the exemplary Mrs. Primrose: their "migrations" amounting to little more than an occasional removal "from the blue bed of flowers," or, more properly, from the bed of blue flowers, "to the brown" patch set apart for the cultivation of esculents; or from one part of the garden or grounds to another: and when protection is given them, as would universally be the case if people were not unfortunately troubled with an obliquity of vision with reference to their own interests, they are often found to resort to the very same spot for the purpose of building, year after year. A pair built, for several years in succession on a branch of an Orleans Plum tree, which was trained against the wall in the garden of Henry Eustace, Esq.; and another pair among some Rosemary growing against the same wall. I have no doubt that, in the former case, the same pair of birds, or their immediate descendants, constructed each successive nest; as a peculiarity in the lining ran through the entire series; the arched feathers of domestic fowl, from the poultry-yard, being almost exclusively employed for the purpose. The egg of the Cuckoo is often palmed off upon this bird; who hatches and rears the young, to the certain destruction of its own legitimate offspring.

Near the top of this same shrub, the Greenfinch (*Coccothraustes chloris*) has a nest. This nest is by no means unlike the last: like it, it is composed of small sticks, green moss, wool, &c.; and like it, lined with hair, and in most cases, a few feathers: it is by far the least interesting-looking of the nests of the Finch tribe. The eggs—five, and sometimes six, in number—vary a good deal in colour and markings: some are freckled all over with pale yellowish brown, bearing a strong resemblance to the eggs of the Redbreast; others are blotched with dark purplish red, or liver colour; while, between these two extreme varieties, are numberless intermediate ones; and some, again, are streaked after the manner of the eggs of the Yellow Bunting. I have some which might readily pass for the latter species, except that they are rather smaller in size. They are usually rather elongated in shape. Tall hedge-rows and evergreen shrubs are principally selected by this bird, as proper situations for the nest; though it may frequently be found placed against the trunk of an Elm, especially if the tree be encircled with Ivy, supported by a small diverging branch, eight or ten feet from the ground.

After harvest, these birds are found in considerable flocks among the stubbles; and, as winter comes on, they approach the farmer's stack-yards, feeding upon the loose grain which may there be found. If the agriculturist could keep an accurate debtor and creditor account between himself and this bird, he would undoubtedly find, at the end of the year, a considerable balance due to the bird; for, although it may destroy some portion of his grain and seed crops,—being extremely fond of turnip and rape seeds, as well as having a taste for wheat and barley, and still coarser fare, beans and peas,—there would yet be an immense set off in its consumption of the

seeds of cherlock, dandelion, and other plants ; which, whatever their medicinal properties may be, the cultivator of the soil justly considers as inimical to his interests ; and which he who plumes himself upon high farming labours assiduously to eradicate. In this work, or at any rate, in greatly checking their increase, he is materially assisted by the bird in question, as well as by the Finch tribe in general.

In the rules laid down or drawn up for the special enlightenment and guidance of "The Standlake and Brighthampton Sparrow Club," and by this discerning body approved of and adopted, two Greenfinches, are held to be equal in value to one Sparrow. I agree with the sage members of this club in their estimate of the comparative value of the two species, because unquestionably the injury resulting to the agriculturist from the ravages of insects and their larvæ upon which the Sparrow mainly subsists, is far more serious than that which he sustains by the prevalence of noxious weeds, upon the seeds of which the Greenfinch in a great measure feeds,—insects being only occasionally included in its "bill of fare." But in forming their estimate, these sages are guided solely by the supposed injury done to their crops by the birds in question. They see plainly enough what it is the Sparrow feeds upon for a week or two before the sickle is put into the corn ; their eyes are open to its doings for about one-twenty-fifth part of the year, but during the remaining twenty-four parts, they either wilfully shut their eyes, or they are afflicted with real blindness in reference to its diet. They see it feeding for a few days upon the ripening grain, and without inquiring further into the merits of the case,—without considering for a moment whether the services rendered them by the bird do not justly entitle it to the small portion of the grain it contents itself with taking ; and whether even after it has consumed this small portion, they are not still infinitely its debtors ; sentence of death is forthwith pronounced against it. This proceeding is directly opposed to the spirit of English law ; it is the glory of our English law, and redounds to the honour of those who administer it in its purity, that in criminal as in civil cases, evidence on both sides is freely admitted and patiently listened to ; nor is a verdict given, until the evidence has been carefully analyzed, and the guilt or innocence of the party arraigned as clearly established as it is possible to be—"the benefit of any doubt" being given to "the accused." Were this spirit of fair dealing to be displayed in our treatment of the feathered tribes, we should have no Sparrow Clubs dealing death and destruction around ;—startling the timid, by causing sudden and alarming explosions to take place close to the windows of dwellings ; and endangering the public safety, or imperilling the vision of her Majesty's lieges by showers of small shots, discharged on highways or in bye-ways, there is hardly a bird but would be hailed as the benefactor of the human race, and welcomed as one of the most beautiful and interesting links in the chain of Creation.

The Greenfinch is of a gentle and confiding disposition ; no bird sooner becomes tame, when treated with kindness, than it. When a boy, I used often to take it in a common brick-trap, in severe weather, and keep it so long as the frost continued ; giving it its liberty when the weather broke up. About the second or third day after being taken, it would invariably feed from my hand, and sit quietly on my finger while I walked about the room ; it also exhibited the greatest reluctance to leave on being set at large. It possesses considerable strength of beak, feeding, when little else can be procured, upon hard pulse, which it is enabled to pick to pieces. I have seldom met with eggs of this species before the latter end of April, or the beginning of May. It occasionally continues to produce eggs till August, between the 12th and the 24th of which said month, in the present year, I found seven nests, four with eggs and three with young, in the neighbourhood of Cokethorpe Park, within less than fifty paces of each other ; the mania for late nesting would therefore seem to have been infectious among these birds. One of the nests contained only three eggs on the day it was found, the 21st, the fourth and final one being produced on the following day ; so that this bird would not hatch its young until the first week in September, the latest period for such an event in the history of the Greenfinch to occur, which has, as yet, come under my observation.

I have, upon one occasion, found an egg of the Cuckoo in a nest of this species. A question of considerable interest naturally arises from this circumstance. Supposing the Greenfinch, which has but little taste for insect food, to have hatched the young Cuckoo, a bird whose diet consists almost exclusively of insects and their larvæ, neither grain nor seeds forming any portion thereof, could it have been reared by its foster-parent ? Would she, by some mysterious agency, have been led to adopt a different course of treatment in the case of the young Cuckoo, to that which she would have adopted in the case of her own proper offspring ? Would a vegetable diet with which she would principally have supplied her own young brood have been entirely discarded, and insect food alone administered as a substitute ? or, did the parent Cuckoo make "a slight mistake" in the matter ? Was she misled by the resemblance this nest bore to that of the Hedge-Warbler, and so acted under the erroneous impression that it was in a nest of the latter species that she was about to deposit, or had deposited her egg ? And would the young Cuckoo, in consequence of this mistake, perish in its infancy, its foster-parent being in the dark as to the exact kind of food proper for it.

Has any reader of *THE NATURALIST* met with an instance of this bird, or any granivorous one, having hatched a young Cuckoo ? If so, would he obligingly communicate the result to the Editor of this Magazine, who, I am sure, would readily give it a place in its pages.

(To be continued.)

THE FISHES OF BANFFSHIRE.

BY MR. THOMAS EDWARD.

(Continued from page 4.)

The Freckled or Spotted Goby. (*Gobius minutus*.) This is another stomach species; as also the Double Spotted Goby, (*G. Ruthersparri*.) which appears to be the rarest of the three.

The Gemmeous Dragonet. (*Callionymus lyra*.) This splendidly coloured fish is frequently met with; and the so-called Sordid Dragonet (*C. dracunculus*) is found in about equal number; for, it is a general maxim, that where the husband is, there should the wife be also. It is somewhat strange, and not a little curious, that ichthyologists of this enlightened age should still cling to the idea that these fish are distinct species. I wish no man to adopt my opinions, either on this or any other subject, but I am fully persuaded that they are the selfsame fish. Looking at the very trifling difference exhibited between them,—a difference which, in my humble judgment, only shows them to be remarkably alike,—I wonder how Naturalists could have set them down as distinct species. Let us examine them internally. Out of about one hundred specimens which I have carefully dissected, I have never yet found any thing like *roe* or *ova* in those having the long rays on the first dorsal, and which are known as the Gemmeous; and, in like manner, I have never yet met with any thing at all pertaining to a *milt*, in those having the short rays, and which are known as the Sordid Dragonet. Their manner, also, when sporting in their native element, which I have often observed in both young and old, goes far to strengthen my opinion. They are always found in the same neighbourhood, and I have frequently seen the adults pursuing each other, but could discover no difference except in the brighter markings and the longer rays already alluded to. Hence my conclusion that they are only male and female of the same species.

The Angler, or Fishing Frog, (*Lophius piscatorius*.) or, as it is called here, the Sea Devil, is frequently met with, but is not used as an article of food.

The Ballan Wrasse. (*Labrus bergylta*.) Pretty frequent during summer.

The Blue Striped Wrasse. (*L. mixtus*.) Rare. A very pretty specimen was taken last season (1853) off Macduff, and is now in the possession of Mr. M'Gregor of that place.

The Gilthead. (*Crenilabrus melops*.) Rare.

Jago's Goldsinny. (*C. rupestris*.) I have only seen one of this species in this neighbourhood;—a most beautiful specimen which I found one winter's day, cast on shore at our links.

The Small-mouthed Wrasse. (*Acantholabrus exoletus*.) Like the last, only one specimen of this fish has, as yet, come under my notice, and that one was captured off Troup-Head.

The Gold and Silver Carps, (*Cyprinus auratus*.) as they are termed, have been introduced, and have thriven pretty well, as at Macduff, where they have propagated to an amazing degree.

The Minnow. (*Leuciscus phoxinus*.) This pretty active little fish is to be found in most of our streams. It is curious to see it stated in works on Ichthyology, that this species is not to be met with north of the Dee, Aberdeenshire.

The Gar-fish, (*Belone vulgaris*.) or, as it is called here, 'The Greenbane,' is by no means scarce, at certain seasons.

The Saury Pike. (*Scomberesox saurus*.) Not so often met with as the last. In fact, it must be termed rare.

The Salmon. (*Salmo salar*.) This valuable and highly-prized fish is found both along our coast and in our fresh waters. At one time, they were very numerous in the Doveran. From a *pot* or *hole* which once existed a little below the bridge which spans the river, at a little distance from the sea, and not far from the town, as many as one hundred, and sometimes more, have been taken at one haul. This was before stake and bag nets were so thickly planted along our sea shore as they now are.

The Bull, or Gray Trout (*S. eriox*.) Some large individuals of this species are taken.

The Salmon Trout. (*S. trutta*.) So diverse, as every Naturalist knows, are the opinions entertained concerning this species, and so much has been said on the subject, *pro* and *con*, that one is a good deal puzzled what to believe. Each writer on the subject seems to be fully satisfied that he has perfectly cleared up the points in dispute. But as these writers do not all agree, there is still a mystery hanging over the matter. Here, at one time, they were believed to be the young of the Salmon; and the tacksman gave orders that they should not be taken. Previously, they had been fished for with small meshed nets, and sold as Trout, under the name of 'Phinock.' Time passed on, and the water beheld another tacksman, who differing from his predecessor, gave orders that they should be again taken. Accordingly, they are now annually fished for, and are once more sold as 'Sea Trout,' 'White Trout,' and 'Phinock;' the larger at threepence, and the smaller at twopence per pound; and always meet a very ready sale.

The Common Trout. (*S. fario*.) In all our streams. These, also, are taken, and sold with the last-mentioned.

The Smelt. (*Osmerus eperlanus*.) Rare with us.

The Herring. (*Culpea harengus*.) This species abounds along this coast, towards the middle of summer, and the beginning of autumn. The fry of this fish is met with nearly all the year round.

Leach's Herring. (*C. Leachii*.) A rather smaller sized Herring than the common species. It is generally met with in small parties in May and June.

The Sprat, or Garnel Herring. (*C. sprattus*.) This also is met with about the same time, but in smaller numbers.

The Twaite Shad. (*Alosa finta*.) Rare. A very fine specimen was taken in our river last summer, about a mile from the sea, and was noticed in THE NATURALIST.

The Alice Shad. (*A. communis*.) The same may be said of this species,—it is rare. They are termed, 'Rock Herring.' A very large one was brought on shore at Gardenstown, some years ago, but was destroyed.

The Cod. (*Morrhua vulgaris*.) It is to the stomach of this species that I am most indebted for many of the rarer of the testaceous and crustaceous specimens which I possess. As some of the readers of THE NATURALIST may not be acquainted with the Cod's bill of fare, a rough sketch may not be altogether amiss. I will only mention what I have myself seen. To name every article of this heterogeneous affair singly, where numbers of one class occur, is, of course, out of the question, as it would take up too much space. The reader will therefore have to exercise his own discriminative powers. Well then: Crabs and lobsters, of almost every description, except *Hamarus vulgaris*, (which I have never yet found,) from the prickly Stone Crab, (*Lithodes Maia*), up to the hard Parten, (*Cancer pagurus*), and the larger the better. Shells of every sort, particularly *Fusus antiquus* and *Buccinum undatum*; no matter whether inhabited by their original possessor, or by a hermit in the form of a Pagurus, it is no obstacle to the voracious Cod. Shrimps, fish lice, sea mice, (*Aphrodita aculeata*), urchins, with now and then a starfish; 'Dead Men's Paps,' as they are termed here, (*Alcyonium*), and *Actinias*; no matter what they may be attached to,—a shell or a stone,* provided these are not themselves fixtures; all are gulphed by this unceremonious fish. The eggs, capsules, or purses, of the Dog (*Scyllium*) and the Skate, with the roe and ova of other species, particularly when deposited on sea-weed; then the Algæ and the Zoophytes, also, walk down the gullet, along with the spawn, that nothing may be lost. As for the Holothuridæ, or Sea-Cucumbers, few if any of them escape. Now and then fragments of the Medusæ. Feathers, with the remains of sea-fowl; and, on one occasion, the skeleton of a partridge with the wings, feet, legs, and head adhering. Pieces of pewter, and of cloth, occasionally; and once a cluster of beech-nuts, with part of a domestic fowl, a cock. As for fish!—why the fish does not swim, if it be not too large, which Master Cod, when hungry, will not attempt, and, if successful, swallow. In short, nothing seems to come amiss. Such is a brief outline of the Cod's bill of fare, as having chiefly come under my own observation. This, however does not include all

* It is only about nine months since I took from the stomach of a Cod, a stone which weighed above three pounds, and to which the remains of an *Actinia* were still attached.

which the animal preys upon and devours. It is enough, however, to show its epicurean propensities. The Cod is extensively fished for along this part of the coast, and may be termed *the poor man's salmon*. Great numbers are salted and dried, and in that state, sent to the southern markets. I have occasionally met with a Cod of a red colour, in all save the fins, which are generally of a yellowish tinge, and never larger than a common sized Haddock. They are known here by the name of 'Rock Codlings.' Perhaps this may be but one of the many varieties of the species already named.

(*To be continued.*)

NOTES ON THE FROG. (*RANA TEMPORARIA*.)

BY JOHN DIXON, ESQ.

(*Concluded from page 8.*)

On the 7th of last July, I found Frogs near the summit of Ingleborough, 2364 feet above the level of the sea. The weather had been wet for some time previous, and no doubt food in plenty was to be had even at this elevation. The froth enveloping the larvæ of the frog-hopper,* called here cuckoo-spit and frog-spit, was very abundant particularly on the two commonest plants in flower, woodruff and tormentil.

I love to ramble amid these solitary scenes of wild grandeur, when stillness reigns unbroken, save by the bleating sheep or curlew's plaintive note.

When a frog is closely pursued, it often ejects a considerable quantity of water, either to lighten itself or what is more probable from fear. Professor Bell† states this water to be perfectly limpid and pure, and secreted in a sac or vessel, where it is kept in store for the purpose of supplying moisture to the skin, in aid of cutaneous respiration. A Frog, in the course of a few hours, will sometimes absorb its own weight of water. Moisture seems absolutely requisite for maintaining them in a perfectly healthy state; hence it probably arises, that their seeming scarceness in dry weather, is to be accounted for by the fact of their keeping more closely to water during such seasons. Around the margins of ponds we may often see scores basking with their heads just out of water; not, I think—as some have supposed—for the purpose of catching insects‡; when disturbed, they plunge to the bottom and bury themselves in the mud with singular adroitness; if however

* *Tettigonia spumaria*, Oliver. Cicada spumaria. This little insect is called, in Yorkshire, a "brock," and from its curious habit, the old adage is derived of "sweating like a brock." This name is also applied to the badger.

† History of British Reptiles.

‡ Jesse's Gleanings in Natural History, second series, p. 143.

you remain perfectly still, they soon re-appear, and venture again to the surface. In very cold weather—during summer—they keep to the bottom, or shelter beneath the roots of rushes and other aquatic plants, where I have found them often huddled together in considerable numbers. The cry of a poor frog, when hurt, or in the jaws of an enemy, is piteous in the extreme. We have often read very curious notices of creatures putting on an apparent semblance of death—now I am inclined to think that this feature is oftener the paralysis attendant on fear. Last June, I caught a large frog at Moortown, tied it carefully up in a pocket handkerchief, and carried it some little distance in my hand. On looking at the poor captive again, it was quite motionless, and to all appearance dead; I felt truly sorry, but still had the inward satisfaction of thinking that it could not have arisen from rough treatment—I laid it on the grass—still no signs of animation appeared—a little brook was close at hand—I put it in—and, in a short time, had the gratification of seeing it swim briskly away. It would seem that they take food under water; for I remember, when very young, going on an angling expedition to some ponds at Wistow; our tackling, it must be confessed, was somewhat primitive, being a straight willow with a yard or two of thread at the end, armed with a crooked pin baited with a writhing worm. The sport began in good earnest, and quite to our satisfaction; several sticklebacks were speedily transferred from their own roomy pool, to sicken and die within the narrow limits of an old doctor's bottle; but what cared we about such thoughts. "Hurrah—another bite—it's a big 'un this time," said one precocious youth, and a big one it was too, and no mistake; not a big fish however, but a "thundering big" frog—the rod was thrown down instanter, and away we all scampered through very fear. One of our party put on a bold and valiant front—returned—and at a respectful distance, we saw him extract the barbarous hook and let the captive free. This is not a solitary instance of their taking bait under water; I have heard other anglers relate similar reminiscences. The colour of frogs is remarkably varied; we meet with them of all shades, from a light yellow to a dusky brown, apparently uninfluenced by temperature. This feature affords matter for curious speculation, being as yet, I believe, unexplained.

There is another circumstance too I must not pass over, that of frogs occurring in blocks of coal and stone.* In such situations, some few have unquestionably been discovered; but we should be on our guard against deception, curiosities of this sort having lately become common, at least in Yorkshire—arrant forgeries,—but still displaying sufficient ingenuity to deceive the unwary. It is surprising to note the various shift expedients that the animal man will resort to, in pursuit of gain. A newspaper paragraph perhaps furnishes us with a marvellous story concerning some antediluvian

* *Gentlemen's Magazine*, vol. lxxxviii., p. 264; *do.*, vol. lxxviii., p. 224. *History of Fossil Fuel*, p. 107. *Chambers's Edinburgh Journal*, new series, vol. x., p. 39.

frog being found in a real solid block of coal ; that its fortunate possessor is say Mr. John Snooks, of the Fleece, who will have infinite pleasure in shewing it to all his friends. Half the country side flock to see it, and as a natural consequence, the contents of *honest* John's beer-barrel go off in a rapid consumption ; he chuckles at the success of his curiosity, which literally becomes a real *golden fleece*.

Rarities of this sort may be seen in many of our provincial museums, but being often crowded amidst a variety of other articles, are apt to be overlooked. Geological specimens, it is true, generally get the best place in public collections, both as regards light and favourable arrangement. The zoological department—invariably possessing most interest to the generality of people—is too often ill lighted, badly ventilated, and suffering from dampness. This last is the greatest evil and should be first remedied. One or two collections I have lately visited, contain the most abject specimens of taxidermy it is possible to conceive. The representatives of what were once beautiful, are now sad pitiful objects, *well* stuffed it is true—but we call a goose well stuffed when filled with sage and onions. Not the least attention has been paid to anatomy. Here stands what was once a lord of the animal creation, to whom we should be doing charitable justice, by removing the “*Felis Leo*,” and substituting “This is the Lion.” A baboon is grinning most horribly, perhaps because one of his eyes is determined on dropping out. A veritable Russian bear—though of a different species to the Czar—looks us in the face, a woeful type of “looped and windowed raggedness.”—Turning to an odd shrivelled up lump of leather, we are gravely given to understand it is a defunct bat ! With shivering steps—for the apartment savours strongly of ague and rheumatism—we turn to the birds. It must surely be the moulting season. That cock though plumes himself on having a couple of goodly tail feathers still left—but what would Juno have said, after paying her sixpence, to find her dear bird in such a pickle. The aquatic tribe are rejoicing in their own element, the water pouring down the cases after each shower—as for the matter of mouldy mandibles, why, don't mention it. Now this is but a true picture of too many public museums, but the evil, I am happy to say, is somewhat diminishing.

Our Philosophical Society, here, has recently made a very judicious alteration, the public being now admitted to their valuable museum “at the small charge of one penny,” as showmen have it ; and their talented curator, Mr. Henry Denny, has drawn up a “Companion,” which to the student will be of great service. Now this is a step in the right direction, and an example that similar societies may profit by. I should much like to see the study of Natural History more generally introduced—as far as practicable—as a part of English education. It is a science which soon rivets the attention of youth, and would serve as a relaxation from the severer studies, besides exciting laudable curiosity, and awakening in the mind a spirit of keen observa-

tion. I often think that both parents and schoolmasters might obviate much of that cruelty shown by youth to dumb animals, if they only went the right way about it. So far as I may judge, it seems of little use inflicting corporeal punishment on a lad for torturing flies, "blowing" frogs, and such like tricks. Example, fraught with kindness, is better than the rod. There are, I believe, some few educational establishments with sensible men at their heads, who adopt many very laudable plans. During one half day in a week, the master gives his pupils readings from a selection of good sound authors. If the subject selected appertains to Natural History, perhaps a microscope is put in requisition, and a world of wonders opened to view. A poor fly is shewn to be a marvellous compound of divine ingenuity, and perhaps to pain as sensitive as even mortal man. Their cruel propensities are gradually conquered—they learn to admire and hold sacred the varied forms of creation, regarding

"the meanest things that are,"
As free to live, and to enjoy that life,
As God was free to form them at the first,
Who in his sovereign wisdom made them all."

A ramble of this sort is never taken but fresh sources of delight arise from it; the mind expands at every step, and learns to find some "good in everything." A fig for all your scientific classifications and barbarous nomenclatures. It is absolute nonsense to attempt cramming a lad with a jargon of jaw-breaking Latinity, which not one person in fifty thousand understands. It is this alone which retards the study, and prevents it from becoming deservedly popular.

What is it that constitutes the main charm of such good books as White's Selborne, Waterton's Essays, or Jesse's Gleanings—why because they are delightful "round unvarnished" reminiscences of actual observation, midst sunny fields and shady groves;—in their perusal, we are almost led to fancy ourselves treading the soft turf and listening to the joyous strains of caroling birds;—we make a companion of our book—its language is pure homely English unadorned.

Now we are all gifted with that power of observation which leans us to admire the beautiful in nature, and have only to exercise that gift to become respectable, and what is better, truthful naturalists. The most superficial among us may be able to hold converse with nature in her thousand varied forms, and to record some new facts or pleasing reminiscences of happy hours well spent. By instilling into the mind the spirit of observation, many evils are conquered and prejudices overcome. There are still people who regard the frog and many other harmless creatures as enemies, say what we will. The poor frog is charged with eating strawberries, simply from the fact of its being seen hopping about the beds; now a little quiet observation would

* Cowper.

remove this silly notion, and prove its errand to be one of infinite service, ridding us of slugs, and snails, the real pests and spoilers of our choicest fruit. But their prejudice is of such ancient standing, and so deeply rooted, that they cannot or will not comprehend; and to turn them from their blind stubbornness, you might almost as well—as Irving says—attempt to turn a rusty weathercock with a broken-winded bellows, or open an oyster with a rolling pin. Time however will bring its remedy; year after year will still roll on, while we are sleeping beneath the grassy mound, and others will spring up to aid the good work, and teach the mind to know that everything for ends of good was all designed.

Leeds, Oct., 1854.

NOTICE OF THE RED SPIDER. (*DYSDERA ERYTHRINA*, Walck.)
WITH REMARKS ON A FEW OTHERS.

BY GEORGE STOCKLEY, ESQ.

With the exception of one or two of our common species, seldom do we see a notice of this interesting family in our serial works on Natural History; yet no branch of that subject is more replete with the wonders of providence than the natural history of our native Spiders, of which a popular work, in a cheap form, is much wanted.

Of the above scarce species, I have met with but two during the past season, both in the vicinity of Old Ford. It is said to be abundant in France. Its general habitat appears to be under stones, and near old ruined walls. It is an easily distinguished species from others of the same family, being in shape somewhat like the Common House Spider, (*Aranea domestica*), but larger, with a longer body, legs pale red, thorax deep red, body inclined to pale brown in some varieties.

The most common species around London, in the early summer, is the pretty Long-bodied Spider, (*Tetragnatha extensa*), most abundant in those lanes where the thick bushes and trees form so agreeable a shade on some of our bright summer days.

Another species, the (*Aranea saccata*) is abundant under stones, and especially at the foot of old walls. The Garden Spider, (*Epeira diadema*), and the small hunter, (*Salticus scenicus*), so beautifully striped like a zebra, seem to be equally abundant throughout England, though I am not aware if they are equally so in Scotland.

There is a species I have met with at Wanstead, rather larger than the one last named, with a longer body; I believe it is the (*Aranea holosericea*, Linn.) it is a prettily marked species, and scarce; it occurs in July.

While rambling in the spring, (I believe May, 1847,) in Hainault Forest, I met with a peculiar bottle-shaped nest of a species of Spider, attached to the twig of a small bush with a kind of stout silken band, yet left in such a manner as to vibrate with the slightest breeze; some weeks afterwards, on opening the box where I had placed it with the view of determining the species at some future time, I found an addition of six young spiders which had liberated themselves from it which with the nest I have in my small collection. The name of the species I am unacquainted with, though it is not uncommon around London during summer, when full grown being about the size of the Garden Spider, (*Epeira diadema*), the body rather flatter than that species, of a brownish hue; it does not appear to construct a web, but frequents the upper surface of the leaves of plants, where it may be observed lying motionless, watching for its insect prey.

There is an admirable figure of the nest of this species in volume second of the Magazine of Natural History, page 104, under the title of "A nidus on a rush," though nothing was known of the species, being there supposed to belong to a water insect. The figures have been copied in other works as spider's nests, though as far as I am aware, the species peculiar to it appeared not to be known, which induces me to send the above for the pages of your interesting Journal.

If any of your correspondents could inform me of the name of this species, I should feel greatly obliged.

Tennyson Terrace, Hackney Wick, Dec. 18th, 1854.

RAMBLING REFLECTIONS AMIDST SNOW AND FROST; ANTICIPATING THE PLEASING PROSPECT OF SPRING.

BY WILLIAM KIDD, ESQ.

O, WINTER! ruler of the inverted year,
I love thee,—all unlovely as thou seem'st,
And dreaded as thou art.—*Cowper.*

Reviving NATURE seems again to breathe,
Now loosen'd from the cold embrace of Death.—*Thomson.*

ALL hail! to the advent amongst us of stern Old Winter. He knows, as well as we do, that Nature loves strong contrasts; therefore has he watched the opportunity, whilst his fair mistress was dozing, to hold her empire within his iron grasp. Soon, however, must the burly old fellow release his hold; and having fulfilled his bracing mission, let a more gentle hand perfect that which he has so well begun. He has done us good service, and we shall part

from him with gratitude. He has regenerated the Earth, and given it new life,—charming proofs of which are becoming daily visible :—

All Nature feels the renovating force
Of WINTER, only to the thoughtless eye
In ruin seen.

We have kept company with him to the last, and pronounce him, though very rough withal, to have “that within which passeth show.”

In the little rural episode I sent you some time since, and which appeared in the February No. of *THE NATURALIST*, I recorded the appearance of Nature in the first half of the month of January. My observations extended, you will remember, to the first fifteen days, and told of a remarkably mild season, the budding of trees, the growth of flowers, and the singing of birds,—in fact of a premature Spring. I was just able to discern, whilst closing my despatch to you, (on the 16th,) that a marked change was about to take place all over the country. Indeed I hinted at it.

Snow began to fall soon after mid-day, on the 16th of January; and it continued to fall daily from that time until long after the end of the month. The 30th of January was the scene of a heavy snow storm. So was the 31st. The streets were all-but impassable on both days. Then the bitter howling winds! It was better than a play, to see how men, women, and children tried to escape from their irresistible violence. To run was impossible. Neither could they face the enemy. Crab-like, they were compelled to sidle along! All this time, Nature had deeply buried in her chaste embraces everything that she loved and cared for in the fields and lanes, gardens and shrubberies, woods and forests. Oh, what a lovely snow-white mantle* did she wear during this month!

Nor was hoar-frost wanting, to gem with its lustrous pearls and sparkling diamonds, (heightened in splendour by the beams of the glorious sun,) the arms and arteries of the lofty oak and other stately trees. Brilliant, too, were the spangles pendant from the more retiring bushes, twigs, and sprays. How they glistened in the sun! Then the fantastic embodiments that everywhere met the eye,—all modelled in snow and ice; there is no possibility of describing them. Fancy might liken them to everything that can be imagined of fairy-land. There were fat little cherubs, trees, birds, palaces, balloons, sprites, elves, and what beside?—all suspended in air, crystallised! And as you gazed on them, they appeared animated! The window-panes, too,—what excruciatingly-droll objects, in endless variety, did *they* not exhibit! Old Winter is assuredly a waggish artist.

* Have your readers ever seen “Snow Pictures,” lighted up by the full moon? I have gazed on such, not long since. It was from an eminence, during the holy stillness of Nature. Night rendered the charm complete. Fleecy clouds floated around the fair moon. In the remote distance, were gigantic mountains of misty vapour. In the midst, shone out the starry firmament. What a boundless prospect of indescribable beauty did the eye comprehend!

Then there were our ponds, and large sheets of water,—all rich in solid blocks of crystal; huge masses of which might be seen quietly floating, or lying about, edgeways, on their shining surfaces. The grass, too,—how beautiful it looked, bespangled with its countless myriads of frozen dew-drops! And when the sun darted his slant beam upon them, how did their varied reflections express all the lovely colours of the rainbow! I seemed, whilst treading the green floor, to be pacing on a pavement studded with brilliants.

But I must now descend from the lofty regions of poetry to common-place prose, and say a few (sad) words about the dear little birds whom, only a short month since, I left so sweetly singing. The snow and frost of January and February, so deep and so severe, have caused them to die by the thousand. February came in with snow, in some places from five to ten feet deep,—covering, not only the surface of the fields, but also hedges and the low brushwood. Poor Skylarks! How they sought the high-road to see if, peradventure a few grains of corn, dropped by some passing horse, might fall in their way! Hardly an hour's life seemed to linger in their little bodies. 'Twas a harrowing sight truly. Whole armies of felts, red-wings, and other of the larger winter visitors, seemed also hard put to it to keep themselves alive. Some of the feathered tribes sought refuge in our London streets,—more particularly the Chaffinch, Hedge-Sparrow, and that dear little fellow, the Blue Titmouse, (*Parus Cæruleus*.) This last might be seen very actively busy in examining the black, smoke-dried branches of the trees in our west-end squares. I remarked him thus occupied last year. As for the Robins and Wrens, poor little fellows!—driven to their shifts, and pursued by their enemy, man, they have suffered most severely.

One would imagine that sights of distress, such as those I have faintly described, would draw forth the sympathy of feeling (if not the tear of pity) from *all* beholders. So far is this from being the fact, that the murderous gun has been *unceasingly* at work; scattering the limbs and feathers of the smaller birds in every direction. This is called “capital fun.” Even our tradespeople joined the ranks, to participate in the “pleasure” of this butchery. Their business, meantime, was quite neglected! I record it to their shame. As for Blackbirds,* Thrushes, and Skylarks, the slaughter of these has been fearfully great; all murdered for “the pleasure of the thing.” A near neighbour of mine,—quite old enough to know better, has slain, with his hollow tube, almost all the feathered pets that frequented my garden; amongst them, my *most* choice, tame Robin, of whom I have published so many interesting little anecdotes. He flew, when wounded, to the favourite

* I am delighted to see how *your* worthy correspondents, Stephen Stone, John Mc. Intosh, and others, continue to expose the absurd prejudices of our market-gardeners and those who persist in destroying Blackbirds, Thrushes, &c., which are the *very best* friends they could have. The harmless mole, too, (*Talpa vulgaris*,) how short-sighted is the policy that deprives him of life! His value cannot be overrated.

window of his; and there, under its sill, breathed his last note.* I remonstrated with the blood-stained wretch, for committing such wanton acts of cruelty; and I asked him what the innocent little creatures (half-starved as they were) had done to annoy him? His reply was worthy of the whole heartless tribe of which he is a member,—“the birds have no business here; *they deserve to be shot!*” Unfortunately, the law affords no protection to these little creatures, *feræ naturæ*. Would that *I* were a legislator for a single day!

Alas, for the carnage carried on in the fields upon these unoffending tribes! I have seen enough in my recent rambles to make me (almost) hate the race to which I belong. The savage enjoyment—a kind of ecstatic rapture—shown by these fiends whenever they have wounded a bird, it is hideous to behold. Legion are they in number, and Demon ought each of them to be named. One fellow, most respectably habited, coolly told me that he and his nephew had (the day previous,—Sunday!) “bagged” twenty-three blackbirds before dinner, *besides wounding at least a dozen others!* Am I wrong in what I so often assert publicly,—that man is a semi-savage? I think not.

I have left myself small space to speak of the now daily opening flowers. With your permission, I will at a future time say a word or two about what I so dearly love. Just at this time of writing, the primrose, crocus, snowdrop,—that “*Icicle changed into a flower,*”—and other little graceful strangers, are bashfully struggling into life. The snow has preserved everything from harm. Its fertilizing, fructifying influences are already visible. The young corn looks luxuriant; the grass is green; the trees are lively; vegetation safely progresses. I can plainly see that, ere long, we shall have a lovely series of daily-expanding beauties in the vegetable world. Before these remarks see the light, strong winds will be at work to evaporate the excess of moisture from the earth, caused by the thaw and heavy rains. Our mother Nature, too, will have awakened once for all. She will be busily arranging her plans, and working her miracles of beauty. Already, I have noticed hundreds of her dreaming thoughts and wishes in course of fulfilment. But what lies before us? There is ecstasy in the thought.

We have yet many more bleak winds to blow over us; but these will gradually subside. The signal will then go forth for us to wander abroad, and *see* what is doing in the fields. Nature's invitation must be at once accepted by all who love the Country. Her companions are even now awaiting her. Hark!

Up springs the lark,
Joyous and loud, the messenger of morn!

* During the past month, I have received many heart-rending accounts of similar acts of cruelty, committed in all parts of the country. Garden-pets, out of number, have fallen victims to the gun of the idle vagrant. In one case, a Blackbird, Thrush, and Starling, (choice favourites all,) were sorely wounded, like my own innocent Robin, they sought the window of their best friend, shewed their shattered limbs, and then *died!*

Ere yet the shadows fly, he mounted slings
 Amid the dawning clouds, and from their haunts
 Calls up the tuneful nations.

Oh, how sad it is to think how few of these "tuneful nations" are left to us! However, let us gratefully make much of the survivors. Their notes shall be doubly sweet.

Hammersmith, Feb. 16th, 1855.

Miscellaneous Notices.

The Gyr Falcon. (*Falco Islandicus*.)—A fine specimen of this rare and noble bird was shot on the 25th November, by a person named Dixon, near Robin Hood's Bay, on the moors of Sir J. V. B. Johnstone, Bart., M.P. It is an adult female, and is in the finest plumage. The beak very pale blue colour; the cere rich yellow; irides nearly black; the head, neck, breast, and lower parts of the body white; the feathers on the thighs are long and white; all the upper parts of the body and wings are white, sparingly marked with arrow streaks of black; the tail has no bars, but is plain white; the legs are yellow; the claws brown. The stomach, on dissection, was found to be stuffed with the entrails of some animal, probably those of a hare. Weight, 3lbs. 3oz.; length, from the point of the beak to the end of the tail, 20 $\frac{1}{4}$ inches; measurement from tip to tip of wings, when extended, 3ft. 10in. Sir John Johnstone has forwarded the bird to Mr. A. Roberts, King-street, Scarborough, to be stuffed. Yarrell, in his "History of British Birds," remarks, "Of the true Falcons which the British Islands produce, the Gyr Falcon may be considered one of the most typical in form, as it is the largest in size. It is an inhabitant of Europe and North America; seldom appearing south of 52° of latitude, or north of 74°." Large sums were formerly expended, in procuring specimens from Iceland and Norway, for various potentates of Europe, who were then devoted to falconry. The Gyr Falcons were used to hunt the Crane, Stork, Heron, and Wild Goose. The ancient amusement of falconry is now little cared for; but, to those who may wish to be informed on this subject, Sir John Sebright's "Observations on Hawking," and Turbevill among olden writers, are the best authorities.—R. B. COOKE, Scarborough, Dec. 7th, 1854.

Temminck's Stint. (*Tringa Temminckii*)—This bird was shot at Wisbeach, Oct. 11th, 1854, by — Whiting, Esq; it is now in my possession.—S. P. SAVILL, 13, Regent-street, Cambridge.

The Gray Phalarope, (*Phalaropus lobatus*.) *near Louth.*—On the 13th of November, a specimen of the Gray Phalarope was brought to me for preservation, by H. Allenby, Esq., by whom it had been shot the same day,

whilst swimming in a pool of water at North Thoresby, distant eight miles north by west of Louth. On the 13th of December, a specimen of the same bird came into my possession, which was taken between North Cotes and Marsh Chapel, distant about nine miles north-north-east of Louth. I have also in my possession another specimen of the same bird, which was shot whilst swimming at Saltfleet Haven, on the 26th of December, 1853. The oldest shooters in the place did not remember having seen a similar bird, although some of them had followed this vocation for more than half a century.—J. BROWN, Louth, December 18th, 1854.

Gray Phalarope, (*Phalaropus lobatus*.) *near Cambridge*.—A specimen of this interesting little bird was killed by a man with a stick, swimming in a pond with some tame Ducks, at Barton, Cambridgeshire, Oct. 6th, 1854.—S. P. SAVILL, 13, Regent-street, Cambridge.

Egyptian Goose. (*Anser Egyptiacus*.)—A male bird was shot by a gunner at Suthery Fen, Isle of Ely, Nov. 23rd, 1854.—IDEM.

Occurrence of the Lesser White-winged Gull. (*Larus Icelandicus*.)—A specimen of this rare and valuable Gull was found under curious circumstances, on the morning of the 8th of December. I was taking the temperature of the sea from the outer pier, when I observed a Gull floating, which had been shot by some sportsman. At first I took it to be a young *Larus canus*; but, observing no black on the tip of the wings, I felt satisfied it was a rarity; and when taken out of the sea, it proved to be an immature example of the Lesser White-winged or Glaucous Gull. My specimen measures twenty-one inches in length; the wings, when closed, reached two inches beyond the tail; colour, dull white, very beautifully clouded with pale ash brown; eyes, dark brown. Faber remarks, this is the only Gull that passes the winter in Iceland without breeding there in summer. It must, like the Ivory Gull, (*Larus eburneus*.) breed in the higher northern regions, and come to Iceland in winter, as a bird of passage; it will most probably breed in Hudson's Bay. It is not unfrequently met with on the Shetland Isles, but taken on our coast it is a treasure for the ornithologist.—ALFRED ROBERTS, King-street, Scarborough, Dec. 1854.

Rare Birds near Plymouth.—A fortnight since a fine specimen of that now scarce bird, the Avocet, (*Recurvirostra Avocetta*.) was killed in the neighbourhood of Plymouth, and is in the possession of Mr. Pincombe, animal preserver, of Devonport. Some specimens of the Grey Phalarope, Black Redstart, and Hawfuch, have been also obtained within the last month.—JOHN GATCOMBE, Plymouth, Nov. 25th, 1854.

Eggs of Foreign Birds, laid in England.—I have now in my possession an egg of the Cassowary, laid in the Royal Surrey Zoological Gardens a few years since; this is a great rarity, I mean the fact of its being "British laid." I have also the egg of the Ostrich, laid in 1851, in the same locality; but this is not so uncommon.—H. H. S., London, Oct. 17th. 1854.



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It is requested that all Communications be addressed in future to **B. R. MORRIS, M. D., 38, Fawcett-street, Bishopwearmouth, Durham.**

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A Letter addressed by us, Jan. 23rd, to W. C. HALL, Esq., Cambridge, has been returned to us from the Dead Letter Office. Will Mr. H. favour us with his correct address.

ERRATA: Page 52, line 18—for *Heathen*, read *feathery*.

„ 53, „ 16—for *Carctla*, read *Caretta*.

„ *ib.*, „ 20—for bows, read boughs.

„ 54, „ 28—for Yayoo, read Yazoo.

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NOTES ON STAR-FISHES FOUND IN THE MORAY FRITH, AT MACDUFF, NEAR BANFF.

BY W.

(Concluded from page 233, vol. iv.)



Lesser Sand-Star. (*Ophiura albida*.) This Star-fish is frequently found. All the specimens I have are from deep water.

Gray Brittle-Star. (*Ophiocoma neglecta*.) Common within tide marks.

Daisy Brittle-Star. (*Ophiocoma bellis*.) This species is again introduced, for the purpose of correcting an error in the former part, (*Ophiocoma rosula*.) and for the purpose of describing others that were lately obtained. One of them is a gem. It is of a reddish colour, with a pentangular white space in the centre of the disk. One would say that this white space is a Knotty Cushion-Star in miniature. The rays are also of the same reddish colour, crossed by bands of a darker red. The disk is three-eighths of an inch across, and the rays are one and one-fourth inch long. Another measures half-an-inch across, with rays fully one and one-half inch long. The disk is white, with a margin of a reddish colour. The rays are of the same colour, crossed by darker bands. A third is wholly of a dirty whitish colour, with scarcely any red bands on the rays. Its disk is about three fourths of an inch in diameter.

Common Brittle-Star. (*Ophiocoma rosula*.) This species is rather plentiful, and of all colours,—red, yellow, variegated, &c. Lately I obtained one with a blue disk and reddish rays, which are crossed by bands of a darker red. With respect to the spines, they are scarcely twice the breadth of the ray; and I find, after careful examination, that they are of different lengths; the lowermost one on each plate being the shortest, and the others increasing in length to the second from the uppermost, which is the longest.

Sand Brittle-Star. (*Ophiocoma minuta*.) Mr. T. Edwards has got several of this species.

Three-rayed Brittle-Star. (*Ophiocoma filiformis*.) This is a very doubtful species in the Frith.

The Long-armed Brittle-Star. (*Ophiocoma brachiata*.) This one is pretty frequently met with in stomachs. Some time ago, I obtained one from the crevices in the shell of a worn *Cyprina Islandica*. It was twisted and turned into the holes and passages between the outside plates of the shell in a most astonishing manner, so that it was with the greatest difficulty that it could be extracted from what may veritably be called a labyrinth. It was of a bright red colour.

Common Cross-fish. (*Uraster rubens*.) "Cross Fit." This is the most common of all the Star-fish. It is the pest of the fishermen. It seizes the bait, and in so doing lies right across the line, and keeps it close to the bottom, among the mud, weeds, &c., and thus prevents the fish from catching

the hook. I have obtained them a foot across, and have been told by the fishermen that they have seen them much larger. I have obtained them with three very unequal rays.

Violet Cross-fish. (*Uraster violacea*.) Plentiful, but not so common as the former species.

Eyed Cribella (*Cribella oculata*.)

Rosy Cribella. (*Cribella rosea*.)

Purple Sun-Star. (*Solaster endeca*.) Rather common. I have obtained some of these of a cream colour above, with a few purplish dots scattered over the body.

Common Sun-Star. (*Solaster papposa*.) Very common. I have one before me measuring seven inches across, with thirteen rays; another five inches, with fourteen rays; and a third six inches and a half, with twelve full-grown rays and two incipient rays; three full-grown rays are between them. Whether the full-grown rays had been broken off, and these two are now growing in their places, it is difficult to say. There is, however, no appearance of the loss of the rays. I obtained a second specimen of the same kind, but did not preserve it. The colours of this "rare fish" were most splendid. In the centre was a dark red space, with tubercles of the same colour. Round this was a ring of a paler red, with the tubercles almost white. To this succeeded a ring of a darker red, similar to the central space, with red tubercles interspersed with white. Around the edge was a very pale red ring, shading into white between the rays, with the tubercles white. The rays were ringed much in the same way. With regard to the madreporiform tubercle, the tubercles are so arranged that the fasciculi on them can cover the whole of it, and often have I observed it almost entirely concealed by them. Is this intended as a protection to it? The short rays also suggest another question: Have Star-fish the power, not merely of reproducing their broken rays, but have they also the power of adding to the number of their rays? Another thing, which appears to be a "*questio vexata*," I have to state. It is with regard to the burning sensation felt on touching the Star-fish. Now I must say, that, on taking the one above described into my hand, after it had been for a day and a half lying uncleaned, I distinctly felt a most disagreeable burning sensation. I had entirely forgotten what Professor Forbes says on the subject, so that the sensation cannot be attributed to imagination.

Bird's-Foot Star-fish. (*Palmipes membranaceus*.) I have obtained three specimens of this beautiful Star-fish, all from deep water, brought up by the fishermen's hooks. One of them is small, measuring three inches the longest way. The centre and rays, or rather ridges, are red. The margin is of the same colour; whilst the spaces between the ridges are white, interspersed with red dots. The under side is white, with the exception of a narrow red margin wholly round two of the sides, and half round the other two; thus leaving one whole side and two half sides white. Another is larger, measuring

five inches and a half. It is of a fine red colour above, and white beneath, with the exception of a narrow red margin. The third is a most splendid specimen. It is almost symmetrical, and measures six inches and a quarter. It was taken in fifty fathoms water, ten miles from land, on the 13th of February.

Knotty Cushion-Star. (*Goniaster equestris*.) This is rather frequent. Within the last eighteen months, I have obtained five or six specimens. All that I have seen were of a fine red colour; the larger ones, however, becoming yellow when preserved, but the smaller ones keeping the colour. The largest specimen I have, measures eight inches across. The furrowed, forceps-like spinules are closed in the dried specimens, but they are open in the living animal. The creature appears to have a very delicate sense of touch. The least puncture with a pin causes it to shut the spinules. If you touch the spinules in any row in rapid succession, it closes them, and, after a little, opens them; so that, before you reach the end of the row, it is shutting them at the one end and opening them at the other.

Butthorn. (*Asterias aurantiaca*.) Common. Of this I obtained, last autumn, a monstrosity. One of the rays, at about half the length, separated into two fully developed rays; so that, if you count the rays at the tips, they number six; if at the roots, five. It was of a pale rose colour.

Lingthorn. (*Luidia fragilissima*.) Both varieties occur. I have before me a specimen with seven rays, measuring sixteen inches across. It was taken from deep water. I have seen them without a single ray, and the disk still living.

Common Egg-Urchin. (*Echinus sphæra*.) "Canniber." Common. One specimen measures twelve inches and a half in circumference, and three inches in height.

Purple tipped Egg-Urchin. (*Echinus miliaris*.) Quite common; always from deep water.

Green Pea-Urchin. (*Echinocyamus pusillus*.) I find the shells in great abundance, brought up in almost every conglomeration of stones, shells, &c.; although I have not yet been so fortunate as to obtain a living specimen.

Purple Heart-Urchin. (*Spatangus purpureus*.) One broken specimen, but quite enough to identify the species.

Fiddle Heart-Urchin. (*Brissus lyrifer*.) Last autumn I procured a very fine specimen. The body was of a brownish kind of colour, and the spines were of a dirty white. It is two inches and one-eighth long, one inch and three-quarters broad, and one inch deep.

Common Heart-Urchin. (*Amphidotus cordatus*.) Quite common.

Snail Sea-Cucumber. (*Psolus phantapus*.) Several were got last autumn, at Gamrie.

Angular Sea-Cucumber. (*Cucumaria pentactes*.)

Long Sea-Cucumber. (*Cucumaria fusiformis*.) On the 16th October, 1854, I obtained what I considered to be a specimen of this Sea-Cucumber. It was

kept alive for several days, but it never changed its position. It merely, from time to time, elongated itself. When stretched out, it measured about three-fourths of an inch. Its colour was a dirty white.

Milk-white Sea-Girkin. (*Ocnus lacteus*.) I obtain this Sea-Girkin in great abundance, almost on every stone and shell taken from deep water. I have kept them alive for days. They are very sluggish, seldom changing their position. I have seen the tentacula expanded at all hours of the day. When touched, they were contracted for a little; but again gradually expanded, when the cause of annoyance appeared to be withdrawn.

Common Thyone. (*Thyone papillosa*.) On the 23rd October, amidst a mass of stuff from the fishermen's lines, I obtained this Thyone. It was, when found, of a roundish shape, with the tentacula protruding to their entire length. It was immediately put into a basin of water. It remained for some time in the same state as when found. By next morning it had fixed its basis of operation on the side of the basin. I kept looking at it at intervals, for some time. It began to elongate itself towards the head, and to throw it about in all directions. It did so for some time. It then contracted itself towards the posterior extremity, and the body seemed as if tied round with a thread. This constriction passed slowly along the body, from the extremity to the head. After it had passed away, it raised its head perpendicularly, and threw back its body, so that you could distinctly see the wave of expansion passing to the posterior extremity. Again the wave of constriction began, and passed slowly along as before. It continued to do so always in the same direction. Its length was, when at rest, about three-fourths of an inch. Its colour was a dirty white.

Tailed Priapulid. (*Priapulid caudatus*.) Sometimes got in stomachs.

Common Spoon-Worm. (*Echiurus vulgaris*.) Doubtful. I obtained, from the stomach of a haddock, what appears to be this Spoon-Worm.

Of the Holothuriadæ and Sipunculidæ, the foregoing are but a very small portion. Since the Frith can boast of a fair share of the other families of Star-fish, a good look-out may bring to light a great many more; of which, when found, due intimation shall be given in THE NATURALIST.

Having now completed the list of Star-fish as far as known, I trust soon to be able to communicate lists of the Crustaceans, Zoophytes, and Molluses.

Macduff, Banff, Nov. 18th, 1854.

A LIST OF, AND NOTES ON, THE FUNGI FOUND IN THE NEIGHBOURHOOD OF EXETER.

BY MR. EDWARD PARFITT.

(Continued from page 279, vol. iv.

Agaricus mastrucatus. This is a curious and very rare species. I met with several growing together in a somewhat imbricated form, on an old post supporting the roof of a shed, at R. Barns', Esq., Bellare, Dec. 16th, 1852.

A. septicus. This is also rare; I have only met with two or three on the trunks of elms, growing out between the cracks of the bark. It is also a pretty and curious species.

A. prunulus. Not uncommon in Stoke Wood, and pastures round Exeter. Sept. 1853.

A. rhodopolius. Rather abundant in rich pastures in this neighbourhood.

A. mammosus. A few of this species occurred at Coaver, in May and Nov. 1853.

A. leoninus. A magnificent variety of this Agaric occurred on a piece of elm lying in the woodyard, at Coaver, Oct. 1851, with the pileus of a beautiful carmine colour, covered with a thickish, transparent, wrinkled epidermis, or rather skin, smooth in the centre, but wavy towards and on the margin, where it is wrinkled into little waves, in a somewhat reticulated manner. This epidermis, with care, can be easily taken off entire. Lamella, slightly imbricated, rather stout face, stem very firm, rather tough, compressed upwards, rather paler than the pileus. This is, I think, the most beautiful Agaric I ever saw; the pencil cannot in any way do it justice. The colour and transparency of the epidermis fixes one to the spot; you cannot but admire it. Unfortunately it is very rare; I have never seen but two.

A. phlebophorus. Two or three of this species came up in some old tan, in one of the pits in Messrs. Veitches' Nursery. Jan. 1853.

A. chalybeus. I met with three or four of this pretty little Agaric, on a grassy part of Exmouth warren, opposite Mount Pleasant Inn, July 14th, 1853.

A. brunneus. Rare. I have only met with two specimens; those were found on a hedge-bank at Coaver, under the shade of trees. 1851.

A. violaceus. This is not uncommon with us, at least I have met with several plants of it each year, for the last year or two; but I have not seen any this. Oct. 23rd, 1851.

A. cinnamomeus. Rare. Only one or two specimens have come under my observation; these were met with in Stoke Wood, Sept. 1852, amongst half rotten leaves, under the shade of trees.

A. aureus. This is not common with us.

A. aurivellus. Several of what I take to be this species came up in one of the stores, at Messrs. Veitches' Nursery, April 5th, 1853.

A. squarrosus. One large bunch of this fine Agaric was brought me by the gardener at — Bowring's, Esq., Larkbear, Exeter; they were growing at the foot of a large apple tree. Oct. 23rd, 1853.

A. flammans. This is a most beautiful species, and very rare; I met with three growing together, on an old elm stump, at Coaver, Oct. 1851, and have not seen any since.

A. fastibilis. Common near the stumps of trees, Matford, &c. July 28th, 1853.

A. flavidus. Rare. One or two specimens only have come under my observation; those were found at Coaver, Oct. 26th, 1853.

A. sapineus. This is also rare. A small tuft of these came up through a gravel walk, supposed to have sprung from the roots of a Pinus, which had died and been cut down. Jan. 1852.

A. rimosus. This is not a common species, though I have met with several in pastures and on lawns round Exeter, Sept. 1852. This is a well marked species.

A. Hookeri. Several of this beautiful Agaric have come up from time to time, on the peaty soil of the Camellia bed, in the greenhouse at Coaver; the epidermis of this, as well as the veil and stem, are loosely covered with loose and luffy scales, which gives the plants a sort of ragged appearance. June, 1853.

A. geophyllus. Common amongst fallen leaves, bits of sticks, &c., under trees at Coaver, and Stoke Wood.

A. tener. Rather common in rich pastures round Exeter, particularly in a large field at Matford. Aug. Sept.

A. hypnorum. This is of frequent occurrence, particularly in moss used with the peaty soil in which orchids are growing, in the store at Coaver House.

A. involutus. Not uncommon. Also a variety with a sub-bulbous base. Coaver, Aug. 20th, 1853. This is an exceedingly variable species.

A. variabilis. Rather scarce. I have never found it but on the rough bark of elms, growing out between the chinks of the bark. It is a curious and very pretty little species, and very much reminds one of the Torquay bonnet-shell (*Pileopsis Hungarica*). Coaver, Nov. 17th, 1852.

A. volvaceus. Rare. I have only seen two; these came up in a cucumber bed, in the garden, Coaver House, June, 1852.

A. Georgii. In a bushy place, at Parker's Well, and one or two other places round Exeter; but it is not an abundant species in this neighbourhood, neither does it grow half so large as I have seen it in many other counties. In Norfolk, for instance, I have noticed some very large, particularly in the woods at Melton Constable, the seat of Lord Hastings.

A. campestris. Common, most years; this year I have scarcely seen any. A curious monstrosity occurred at Mr. Bowring's, Exeter, Nov. 7th, 1852,

very much indeed like the one described by the Rev. M. J. Berkly, in the English Flora, page 107. The one I am about to describe was a very fine specimen, on which the curious monstrous form was growing; it measured five inches in diameter. The monstrosity was like a smaller specimen, without a stem, and with its back; that is the top of the pileus was growing out on the top of the larger one. But the margin of the monster was distorted and irregular, and the gills were also irregular, and somewhat broken into teeth-like laminæ, and placed as it were promiscuously, some one way and some another, in the pileus; their margins, also, very irregular in form, resembling in miniature the horns of the Moose Deer, without the lower antler; these curious gill-like processes were exactly the same colour as the true gills of the typical form of the species, and also produced spores just the same.

A. campestris, variety *pratensis*, of Dr. Badham. This is not a common Agaric with us, I think this plant has as much right to rank as a species as many others that are called species. It has always a different place of growth from the *true* species, growing on old clay hedge-banks and margins of wood, in dense tufts. The pileus, too, is always of a brown colour, and the gills are of a much deeper flesh colour, and the veil is also much more dense, the flesh more solid, and harder than in *campestris*. With these distinctions I think we might venture on calling it a true species.

A. præcox. This is not a very plentiful species, though I have met with several lots of it, and also several varieties.

A. semiglobatus. Common in rich meadows round Exeter.

A. æruginosus. This is also a plentiful species in short grassy meadows and lawns.

A. lachrymabundus. I have only met with two or three specimens,

A. fascicularis. Very common on the stumps of old trees, in dense tufts.

A. callosus. Rare. Two specimens only, in Mr. Pince's Nursery, Exeter. Jan. 14th, 1853.

A. fœnisecii. This is also rare; one or two specimens only I have found, and in the stoves at Messrs. Veitches' Nursery, Exeter.

A. areolatus. A very distinct species. I met with this in the garden of Coaver House, near Exeter. Sept. 1853.

A. Candollianus. Rare. One specimen only in the stove at Coaver House.

A. bifrons. Rare. A very pretty little species; I met with it in an old cow-dung, at Coaver. Nov. 13th, 1854.

A. atomatus. This is a very beautiful little Agaric, found amongst rotten sticks, &c., on the margins of woods. Not common. July 28th, 1853.

A. corrugis. Rare, in this neighbourhood.

A. gracilis. Not common. One or two specimens in the grounds of Parker's Well House. Aug. 1854.

A. semioratus. Common on dung of animals in meadows round Exeter.

A. papilionaceus. Two specimens only have come under my notice; those were found on the lawn, at Coaver. May 19th, 1853.

A. striatus. Rather rare. Three or four only in a field at Matford, near Exeter. 1851.

A. Boltonii. This is a very pretty and delicate Agaric; in wet weather it is beautiful, but in dry weather it sometimes dries up before the pileus expands, when it closes or falls down round the stem, in folds, precisely like a closed umbrella in miniature. The description in English Flora being so brief, I will add a little more to it, so as to enable any one interested in these matters to distinguish this plant from its allies. Stem hollow, brittle; fibrillose, when young, very finely striated, the striæ scattered over with very minute scales, particularly the upper half, at length nearly smooth. Gills, cinnamon, or reddish yellow coloured, very thin; ventricose in front, free, the margins finely serrated; Pileus membranaceous, viscid, when young, soft to the touch, smooth, and shining at the apex; margin striated, apparently from the pressure of the gills; ochraceous, the pileus at length becomes concave, slightly umbonate, the umbo at length clothed in a beautiful white web-like down. It is a very beautiful and graceful little Agaric, not uncommon in rich, duncy pastures, round Exeter, in July. My figure and Sowerby's *A. flavidus*, agree exactly.

A. disseminatus. This is a delicate and beautiful plant, but very common, on the ground over buried wood, &c.

A. comatus. A fine and beautiful fungus, in a young state, when it is also good as an article for food; but it soon dissolves into a nasty black fluid, which fluid may be made use of by the artist.

A. picaceus. Very rare, but curious and beautiful. I met with two of this species, in a pasture at Matford, in Oct. 1851, but have not seen a single one since. Those I took home and figured; but while busy painting them, one of them melted away, into a black, inky mass as if he had not the face to sit to have his likeness taken; but it was no use, the thing was done; for you must recollect whoever takes up the study of this interesting branch of Botany, when you get a subject, you must either make a drawing directly, or a clear written note of the species under consideration, some of them being so fugacious and fragile that almost the least breath of air destroys them.

A. atramentarius. Common about the roots of old trees, &c.

A. micaceus. Also common at the roots and stumps of trees, sometimes in prodigious numbers.

A. cinereus. Not very plentiful; though I have met with many, in Coaver garden, in rich soil. April 13th, 1853.

A. niveus. This is a very pretty Agaric, when young; rather common in rich meadows, on horse dung. Oct. 1851.

A. plicatilis. Common on dung in pastures; very delicate and fragile.

A. Hendersonii. This is the most delicate, fragile, and fugacious fungus I

ever met with; two or three specimens came up in a hot bed, in Coaver garden, in 1853.

A. stercorarius. Common on dunghills, &c. Oct. and Nov.

A. ephemerus. An elegant little species, and very common.

A. ——— A beautiful species, allied to the last, came up in some damp cinder ashes, in the greenhouse at Coaver, Aug. 10th, 1853. Pileus membranaceous, striated, umbonate, the umbo yellowish umber, the rest of the pileus dilute umber, and frosted over with beautiful white jointed scales, the joints tinged with yellow, the scales, or squamula, triangular, curved; Lamella, very narrow, rather paler than the pileus, their margins black, soon dissolving, adnate; stem hollow, white, sub-bulbous, rooting, clothed in scattered, white, meal-like scales, which are thicker towards the top; rather brittle, sub-fibrillose. My figures are very much like Sowerby's *A. acetabulosus*, though they do not agree in all points, nor can I find any description in English Flora with which it corresponds.

A. rutilus. One or two specimens only under Scotch firs, at Coaver. Aug. 23rd, 1853.

(To be continued.)

THE SWAMPS OF THE MISSISSIPPI.

BY GEORGE DONALDSON, ESQ.

(Continued from page 54.)

My wardrobe was rather limited, for with the exception of my two blankets (a red one and a blue one) I could have put the rest of it into the crown of my hat.

Two years had nearly elapsed from the time I had raised my gun and killed a "*Cedar Bird*" in the State of Massachussets, before I found myself rowing up a byou to the west of the great Mississippi. Our progress through it was necessarily slow, from the overwhelming heat of the sun; the turnings and twistings were numerous, from having to observe the openings and narrow passages through the prairie cane; we passed through a cedar swamp of great extent, completely inundated, the trunks of the trees, on an average, being fully eight feet under water, and some of the animals which I have previously mentioned I had then an opportunity of seeing. The first flock of Ducks which I observed were the blue winged Teal, (*Anas discors*.) of which I shot one and wounded several. The belted Kingfisher (*Alcedo Aleyon*) was of common occurrence, and would frequently perch within ten yards of me, on a drooping branch of a decayed cedar; and the familiar manner in which he appeared to recognize me, by erecting his crest and

bobbing his head, was often the cause of prolonging his life. We very frequently opened into lagoons of considerable extent, and on my first entrance into one, I was deceived by what I imagined to be a black and flat bank, of about an acre in extent; this, to my confusion, on a nearer approach, was converted into a countless host of Pooldeans, (a species of Coot, *Fulica atra*,) so closely crowded together, that I was often surprised afterwards that they could find sufficient room to swim; as they permitted me to approach within fifteen yards of them, you can scarcely doubt there were some deaths and a few cripples in the collection. These birds are passed by with perfect indifference as long as the Ducks continue plentiful; and during a haze the canoe can nearly be paddled on to the top of them, which I partly did, and as I cannot show you what I killed by shooting both barrels into such a mass, I may mention that one of the men with whom I afterwards associated informed me that he killed 153 by a right and left, which I do not for one moment question.

The appearance of these birds taking wing is very picturesque; in place of raising themselves into the air, they keep tripping and spattering along the surface, supported by the flapping of their wings; and this temporary commotion produced within a still lagoon is frequently very refreshing. I think that, without fear of contradiction, I may set down the Cinereous Coot as being infinitely the most numerous of any species to be found in the swamps. We continued through a long succession of creeks and lagoons, well stocked with Ducks and Pooldeans, at which I kept loading and shooting till the sun went down beyond the prairie; and, just as he *plumped* out of sight, a common practice with him in tropical countries, we reached lake Cataahoola, a distance of fully thirty miles from the river. Our landing was a very sticky one; for, in place of getting close to the shore, we had to get out and wade up to the knees, through mud and decayed vegetation, and carry our cargo, consisting of guns, Ducks, a quantity of rice, blankets, several bags of shot, and two jars of claret, besides other articles which some of the men had ordered. On getting to the bank, I discovered that it consisted principally of shells, which had been thrown down above the decayed reeds and prairie cane, by the Choctaw Indians, who, I was afterwards informed, had carried them there for the purpose of forming mounds, not only as places of sepulture, but also as a temple for the adoration of the Great Spirit. I very shortly afterwards gathered my blankets about me, and lay down on the shells, where I slept as soundly as ever my grandmother did on a bed of down.

The following morning, very early, I found that I had got into a new circle of friends, who were rising out of their lairs all around me; several of them were rather better sheltered than I was; there were three Americans, two Frenchmen one Mexican, a Swede, three niggers, (runaways, I suppose,) with all of whom I became immediately acquainted. The history of these

men I have no doubt would afford many a strange incident, and probably a few *dark* ones, as the swamps in that country furnish the desperate with a great city of refuge; for in such a place they are beyond all law and jurisdiction; swords, bowie knives, and pistols, are within the reach of all, and many a midnight *burial* takes place amongst the lakes. Sunday is not even known, and the chase is kept up with quite as much interest on that day as any other day; and, as the markets in the southern part of Louisiana are open on the Sabbath, the supply of Ducks and fish are expected on that day as well as on Saturday.

The confusion of tongues prevailing in the French market of New Orleans, which I afterwards visited, almost convinced me that the crowd which was dispersed at Babel had come to a focus there. The morning after my arrival, I got up out of the shells about two hours before day, and found that several of my foreign acquaintances had already *put out*. A canoe (or *peroque*) as they are always called, was provided for me, into which I got myself squatted, and after paddling and shoving myself through a long, zigzag, marshy, and muddy creek, quite overgrown with sword-grass, by which I got my hands severely cut, I got into a small bay, which opened into lake Catawatchaa, when I secreted myself amongst the reeds till about sun up. The Ducks then began to fly, and the shooting commenced across the lagoons, from the blinds which the men had constructed to shoot the Ducks from. The quacking of these men, in imitation of the Ducks, was so very remarkable that I never could distinguish between the one and the other; this is the great secret in Ducking, and had I not seen what they can accomplish I never would have believed it. A man concealed in a *blind* can call a flock of Ducks from an altitude of 200 yards till within fifteen feet of him, and you may then suppose how many he can kill by a well directed *right and left*. In this *accomplishment* I was found wanting; but independent of it, I had as much sport as I could desire, and many a Duck did I kill, the lustrous tints of which were little inferior to many of the Humming Birds. The Prairie Hawks were very numerous, and followed closely in the track of where so much destruction was going on. To see them stooping and hunting the wounded Ducks across the lagoons was frequently a very spirited affair, and it was nothing uncommon for one of them to alight on the back of a Duck which had just been shot, and that, too, within fifteen yards distance. The first Mallard (*Anas Boschas*) I killed, was taken possession of by one of them, but whom I quickly stretched at full length alongside the Duck, to teach him that I was quite as good a judge of Ducks, without the green peas, as himself.

In about two hours I had my *peroque* well loaded with both Ducks and Pooldeans. I then paddled off amongst the marshy islands, in search of Alligators, which I had no difficulty in finding. The first which I came upon were laying quite exposed, with the exception of a small portion of the tail,

within the lagoon. I supposed they would turn round, and present their heads before sinking themselves; in this I was disappointed, for they *backed* into it, and immediately disappeared. I was defeated repeatedly in this way, in my attempts to bag the game; but I afterwards ran my canoe close up to them, and seldom failed to burst their heads before they could effect their escape: the average length of such as these was from seven to nine feet. Some smaller ones, which I afterwards killed, I turned belly uppermost, to make them more attractive to the Black Vultures (*Vultur atratus*) and Turkey Buzzards, which were frequent in their attendance.

There is no other way of killing Ducks within the lagoons, than from a canoe, and much care is required in shooting from it; for by doing so cross-ways, (as I explained before,) it will upset in a second, and many guns and lives have been lost in this manner. They only contain a single individual; (I refer entirely to the canoes within the swamps;) and if one should tip over, in an open lagoon with a mud bottom, the chances are, the boatman might share a similar fate with the prophet, with no hope of being vomited up again. The distances at which the men are frequently from each other, prevent the possibility of their ever being *heard*; and as for being *seen*, that is out of the question, for the tall rushes and cane-brake by which they are constantly surrounded render this impossible. It occasionally proved rather a "coggly business for me, but I always saved my distance by about half a nose."

On my arrival at the Shells, I found that several of the men had returned with their canoes well loaded with Ducks and Coots; with which they had cooked up a very greasy mess, better suited to the taste of an Esquimaux than of a Scotchman; this however, with some boiled rice, was very acceptable. Amongst the variety which I had killed, I found the following species: the Ruddy Duck!! (*Anas rutilans*), the Cauvass-back, (*Anas valisineria*), the Shoveller, (*Anas clypeata*), the Mallard, (*Anas Boschas*), the Buffel-head, (*Anas albicollis*), the Prairie Hawk, and the Cinereous Coot. (*Fulica atra*.) Many successive days were passed in the same manner, during which I shot two other species; the Green-winged Teal, (*Anas crecca*), and, if I mistake not, the Pintail. (*Anas glacialis*.) While laying quietly concealed in my canoe, amongst the tall reeds, I have been much delighted with the near approach and the inquiring "peep" of the Water Rail, (*Rallus Virginianus*), and the wonderful activity displayed by the Marsh Wren, (*Certhia palustris*), and other Creepers which I cannot name, (I question if they have ever been named at all,) hunting insects up and down the long slippery canes all around me.

In shooting from a blind, the person is quite concealed; and it is only after having shot a number of Ducks that he unfastens his canoe, and picks them up from off the lagoon, where they are floating around him. He is occasionally disappointed in lagging the whole, for the Alligators now and then nab a few. I lost several Ducks without knowing how; but this was

soon explained, by observing the jaws of one of these animals projected from the surface, and gobbling up a Duck, within a very short distance from me. I watched for a repetition of such a piracy; and just as I caught him gaping, I discharged a barrel right down his throat; which I am quite sure, if it did him *no harm*, did him *no good*. I have little doubt that some of the monstrous Cat-fish in these swamps, practice the same thing; and this I am inclined to believe, from their snatching at some birds in my hand, which I previously mentioned. I was astonished, on one occasion, to find a frog make an attempt to swallow a Bird called the Tyrant Fly-catcher, which I had shot. It fell into a marsh, and scarcely had it reached the water when it was seized and pulled underneath; the buoyancy, however, of the bird, of which he had only swallowed a part, raised it to the surface. I immediately shot my other barrel; which resulted in wounding the frog, which swam to the other side. Upon measurement of it afterwards, I found it to exceed sixteen inches, measuring from the extended forelegs to the extremity of the hind ones. I could mention other instances of equal voracity, and two in particular; one of a shark off the island of Porto Rico, which I fed with a quantity of shavings tied up in an old handkerchief. I gave him something else, besides the shavings, which he did not appear to relish so well. The other was that of a shark, pursuing and attacking the canoe of a nigger boy, called Isaac, while crossing a lagoon; it made two attempts, and in the last one broke several of its teeth, which it left sticking in the side of the canoe, one of which I afterwards extracted with my knife.

(To be concluded in our next.)

THE MYRTLE BEE.

BY O. S. ROUND, ESQ.

UNDER this title, there has been, as some of my readers may be probably aware, a very extraordinary discussion of late, in the "Notes and Queries," a periodical that deserves a more extended circulation than it has hitherto obtained, relative to a bird *unknown* to any British ornithologists. This circumstance was first mentioned to me by Mr. James Forbes, late of Sillwood, Sunnyhill, who, being acquainted with the gentleman from whom the statement came, and who was also known personally to myself, I expressed a wish to see him upon the subject; and they both of them, viz., Mr. James Forbes, and Captain Brown of Egham, came to my rooms on the 27th ult., and I "had it out," and will give, as nearly as I can, what passed on that occasion. Captain Brown I have known for many years, he is an old Peninsular officer, of the 50th, celebrated as a keen and successful sportsman, and

more especially with the gun and rod, and as having taken the largest Trout ever caught with hook and line in the Thames, which weighed 15½lbs; one thing more I must premise, and which my readers could not otherwise know, and that is, the honest, straightforward, and soldier-like bluntness with which the story I am about to tell was given. Captain Brown set out by disdaining any pretensions to a knowledge of British Ornithology, to which, in part, is probably to be ascribed the fact of the present subject having not earlier been brought under the attention of Naturalists. It was at the termination of the last war, that the Captain returned to his native village, where he has ever since resided; and every locality within a range of six miles from Egham was well known to him, as far, at all events, as its sporting capabilities went. The spot to which I would now refer is known as the "Long Arm," and is a valley lying on the north side, and running parallel with what was the Guards and Cavalry Stables' Quarter of the Camp at Chobham, and which terminates eastward in a piece of water, which was of essential use on that occasion. Twenty-five years since, this valley was one quaking bog, incapable of sustaining the weight of a man, and in which even pointers floundered about leg deep; it was then covered with what my friend calls "Bog Myrtle;" and I presume, by his description, this was a small species of withey, which grows in such localities; at all events, it flourished here, in large or small patches, or single bushes, more or less. This valley abuts on the eastern part of the Portnall Estate, belonging to Colonel Challoner, and was a good Snipe-ground, and the constant resort of the Captain, his father and their friends. On these occasions, he says, that he remembered his father complaining of "those troublesome *Bees*" which diverted the attention of the dogs, and kept them pottering about in the bushes to the great loss of time; and this occurred every time they went to the spot; and being in the habit of meeting with the aforesaid "*Bees*," it became so usual, that he never thought of its being anything peculiar, but looked upon them as some species of small bird which usually frequented such places. They were very minute, and flew, or rather buzzed from bush to bush, immediately concealing themselves at the foot, in the grass around the stem, and seldom or never again appearing; and he well remembers his impression being, that the dogs must often have trod them into the moss, and so killed them. The tail appeared long for the body, and in flight, gave them a pleasant-like appearance. The parties with whom he was in the habit of shooting in this place, were his father, Mr. Samuel Mumford of Chobham, an old man named Spong, and well known as a man living on the produce of the "wild," who dealt in plovers' eggs, snipes, and wildfowl, and a Mr. Isherwood, brother to the present Rector of Old Windsor. Being out shooting in the locality in question, with this latter gentleman, and the "*Bees*" flying from bush to bush, as usual, one of the pointers followed a bird into a bush and made a dash at it, as dogs will, and came up the bank with a bunch of grass,

&c., in its mouth, which, upon being called to, it dropped. This was picked up by Mr. Isherwood, with the observation, "now I wonder if he has got anything there," immediately followed by, "lauk! look here, what a little brute," or some such expression; and sure enough there was a bird, but such a bird as never was seen before. Being both keen fishermen, the first thing that naturally occurred to them was, has it got any feathers fit for flies? But after a careful inspection, that was found to be a hopeless case; and Mr. Isherwood exclaimed, "what a worthless little devil;" but, as Captain Brown thinks, pocketed the bird, and his description of it is this: It was *not* half as big as a common Wren; (in the Notes and Queries he says, "half," not wishing to put it lower;) the tail being long in proportion to the body, probably two-thirds, but square; the whole length about two inches. The plumage, sooty, gray-black; the only variation being round the vent, where the feathers were yellowish; but one peculiarity much struck him, namely, that the tongue, which protruded, in consequence of the dog having crushed the little creature, was long, horny, and very sharp; the head was small in proportion, and the neck short; and the legs and feet the tiniest things you could imagine. This was the description of the bird, and this the manner in which ocular demonstration was obtained of its identity. Immediately that, I believe by a casual mention of the circumstance, this discussion arose, Captain Brown set to work to get corroborative evidence; but Time, the destroyer of all this, was greatly against him. First, the locality wore a totally new face, the ground had been drained, the quaking bog had ceased to exist, the "Bog Myrtle" had been taken with the Peat in which it grew, and had boiled many a lowly kettle. Mr. Isherwood and the Captain's father had paid the debt of Nature, and therefore old Spong and Mr. Mumford were the only available witnesses. But here again he was foiled; old Spong had died in the union, the year before, and Mr. Mumford was in fact on his death-bed, so that the fact rested, and now rests on the Captain's sole testimony. He says, indeed, that a Captain Shepherd, of the Royal Navy, was with him on one occasion, and saw the birds flying to and fro; but whether he is living or dead, or whether, if living, he would remember the circumstance, is, of course, doubtful.

To this account, Captain Brown adds, that on another occasion, and in another locality, namely, near Rapley's Farm, Bagshot Park, he met with the birds, but had never seen them elsewhere. Now, I know, that all extraordinary tales are at once repudiated as simply fabulous, by a large class of persons; and again, there are others who incline to an immediate belief, with somewhat of a superstitious awe; the true medium is, of course, the safest. I confess that I *cannot disbelieve* Captain Brown's statement; and then comes the question, whether his memory is defective on the subject, or being no Naturalist, he mistook some very small known bird for a non-descript. The Rev. Mr. Isherwood has been communicated with, that

search might be made amongst his brother's tackle and papers, but at present, I believe nothing has been found, and therefore we can only reason on what we have before us. My first impression, when I heard of the matter was, that it might be a "Lesser Grasshopper Lark," which we know frequents such localities, except that it is generally where the ground is dry; but the square tail is against it, and the Captain, on being shewn the figure of one, denied any resemblance to *his* bird. This is all I have been able to elicit or conjecture; and as I have already run this article to an unusual length, I must let it rest here for the present. Before I close this, however, I may just observe, that the fact of a nondescript having hitherto escaped the attention of Naturalists, has occurred on so many occasions, when the subject was almost before their eyes, that I do not think such a consideration should have too much weight.

Lincoln Inn Fields, March 1st, 1855.

THE WATER OUZEL. (*CINCLUS AQUATICUS*.)

BY A. S. MOFFAT, ESQ.

THE Water Ouzel is a very common resident on the pebbly upland streams of the highlands of Northumberland, where it seems to be a permanent denizen; as in any month of the year it is impossible to walk half a mile along the gravelly shores of these hill-born streams, especially near the Cheviot range, without encountering at least half a score of these little spruce, white-throated warblers, now perched upon the top of some projecting stone, jerking out a lively little ditty,—anon plunging head foremost into the shallow but rapid stream to cater for its crustaceous meal,—then taking wing, and after a flight of a hundred yards or so, dropping suddenly upon some favourite shallow, again to repeat the same routine.

It seems almost miraculous, how these tiny creatures manage to stem the power of the stream as they do while so occupied; I have seen them immersed quite over head in a rapid, where it would seem utterly impossible for any bird, their size and strength, to keep its place for a moment against such a current; and it would appear to me very evident, that they can only accomplish this mechanical feat, by grasping hold of the gravel and stones at the bottom of the water with their feet. Although I cannot assert this to be a positive fact, yet I consider it to be so probable, that in no other manner can this strange faculty be so reasonably accounted for.

In regard to the nesting places of this bird. I may mention that one day last season, somewhere about the middle of June, while on a fishing excursion, I was about to cross a Mountain-burn, called the Langley-ford-burn, about a mile from the foot of Cheviot, over which is thrown a foot-bridge,

composed of three or four rough fir trees, placed side by side, (and covered on the top with turf flags,) with their ends resting upon two opposite rocks. On approaching the bridge, I observed a nest placed underneath it, between the supporting trees and the turfs; and as a proof that it was the nest of the Water Ouzel, I observed the parent bird itself fly out of it not more than four yards from me, as I approached the end of the bridge.

It is still, I believe, an unsettled point, whether or not these pert little gentry destroy the spawn of fish. I am rather inclined to give them credit for some little depredations of this kind, although I have heard a good practical out-door Naturalist strenuously deny the charge. He informs me that he has dissected the stomachs of scores of them, at all periods of the year, and never yet discovered the ova of fish in any of them; yet I observe, that during the spawning season of the Salmon and Trout, which always run up the mountain-becks and burns for this purpose, as near to their sources as they can find suitable gravel-beds to deposit their ova in, the numbers of these feathered attendants vastly increase at this particular season in these localities, which looks rather suspicious. And as this bird undoubtedly preys upon all kinds of aquatic larvæ, next door to being piscivorous, I have no reasonable misgiving, but that any dainty looking spawn which may present itself, during those diving excursions, would be unceremoniously appropriated without any regard to the Tweed Fisheries' Act. But as this accusation is only supported by circumstantial evidence, perhaps some of the readers of THE NATURALIST will be kind enough to enlighten us on the subject.

I cannot say what the nest above-mentioned contained, as its situation was such, that I could not reach it without removing the superincumbent turfs, which would inevitably have destroyed the nest; and being unwilling to do this, I left the little waterman in peaceful possession of its romantic home.

Wooler, Jan. 8th, 1855.

WINTER.—NOTES AT THE LAKES.

BY C. W. ROTHERY, ESQ.

WINTER, felt by all in this changeable climate of ours, has perhaps been more severely so by the denizens of this mountainous district,—by man, and beast, and the feathered tribe; and the vegetable kingdom has nigh all its traces cut away. Wreaths of snow, on the Keswick and Ambleside road, have been cut through five or six feet deep in some places; forming, *in situ*,

marble passages, as it were; breasting a sparkling view beyond, of the Helvellyn range, or what one of our local poets styles, the

“Elephantine sides of mighty Helvellyn!”

All the ridges have been clothed in the purest white, and have not been so beautifully adorned, perhaps, for twenty years.

In a similar excavation extending the greater part of a mile along a lane—the Lovers’ lane of Keswick cars—to the Druid stones, upon the brow of Castle Rigg, I wandered the other day; and suddenly, in the snow track, I was aroused by three wild geese, on their way to some other winter scene. Noting the trio is barely admissable; but their flight was so remarkably low, that, had I had a stone ready and been a good shot, I certainly might have brought down or wounded one of them, as they passed over my head.

A day or two after the departure of the Wild Geese, a rapid thaw commenced; which has continued, and melted the snow fields, and the stubborn thousand acres of lake ice; leaving here and there only traces of former richest tracery, which appear in scratches and patches on fell noses and their caps. The ice of Derwentwater, on being cut, was ascertained to be about eight inches thick in the centre of the lake, before Thursday, February 22nd; and the surface was so compact and solid, that carts heavily loaded with coals passed over to Vicar’s Island; also two gentlemen in a gig drove across the lake. I walked round part of Derwentwater the other day, immediately after the thaw began, and was much surprised on seeing extensive cracks, which appeared to reach nearly across the lake. Large wedges of ice had been raised, and reclined upon the level surface, or lake ice field; the sun’s rays, softening the thick floes, caused them to break into thousands of elongated crystals, when you administered a sharp blow to the block; thereby scattering the glittering fragments in every direction, as spangles innumerable, to the sun.

A few days ago, I paid a visit to Stockgill Force, near Ambleside; but did not particularly note its appearance, expecting to look upon more beautiful tracery from accumulated icicles and their congeners. The encased falling water, broken, was pretty to look at, within the grotto-formed recesses of ice; but the effect at the old bobbin mill, a few yards below, was beyond description. Icicles seemed to weep as willow sprays, in every direction where the cold water could escape to add another frozen drop; and the trough whose contents supplied the mill wheel stood forth with a regiment of oblong white boys, some eight or ten feet in height.

At Keswick, vegetation is far behind, as we can only expect. The Snowdrop I noticed, for the first time, in the gardens of Greta Hall, on March 1st. The Bullfinch sang lustily on the 1st of March; but all other birds, save the Robin and Rooks, have not yet yet regained their spring-like feelings.

Greta Hall, near Keswick, March 2nd, 1855.

Review.

The Entomologist's Annual, for 1855; comprising *Notices of the New British Insects detected in 1854*. Edited by H. T. Stainton, Esq. London: Van Voorst, 1855. Pp. 112, one coloured plate. Price 2s. 6d.

WHOEVER has pursued the study of Entomology for any length of time, must have frequently felt the want of some work which should give him an idea of what others were doing in the same interesting pursuit in which he was engaged. This want has been most apparent in the case of those who, living in the country, are, as it were, in a great measure isolated, with respect to other Entomologists. The *Entomologist's Annual*, as its name implies, purposes to supply this deficiency; and its projector, Mr. Stainton, deserves the thanks and encouragement of all Entomologists in the country, for the admirable way in which he has carried out his design. Of the work before us, some sixty pages are occupied by a list, with authorities, localities, &c., of all the Lepidoptera which have been discovered since 1835; those obtained in 1854 being kept separate from the others. This list is the production of Mr. Stainton, and his well-earned reputation as a Lepidopterist is a sufficient pledge for the accuracy and completeness of the list; which comprises 174 species, 21 of which were found during the past year; showing that novelties may still be expected to reward the diligent collector.

The next fourteen pages are occupied by the new Hymenoptera. This portion of the volume is from the pen of Mr. Frederick Smith, well known, for many years, as one of our first Hymenopterists. From this it appears, that 59 new Bees have been discovered since Kirby's Monograph, in 1802. Several additions are also recorded in other families of the Hymenoptera.

The next portion of the work is devoted to Coleoptera; and its author, Mr. Janson, commences his list, which embraces 227 species, from the production of Stephens' Manual of British Beetles, in 1839.

In order to give our readers some idea of the nature of the work, we extract the following from the notices of new British Lepidoptera taken in 1854:

"Eudorea gracilalis. Doubleday, n. sp.—Taken by Mr. Weaver in Scotland; expands 9–10 lines; not very nearly allied to any of our known species: the anterior wings have a peculiarly delicate appearance; they are very narrow at the base, gradually widening to a little before the apex: the hinder fascia runs obliquely inwards from the costa, as in *E. lineola*; before the hinder margin are several black spots, cilia pale fuscous, with paler patches; the posterior wings are greyish-fuscous, with paler cilia."

Many of the other new insects are noticed with much more elaborate descriptions, and the plate which accompanies the volume contains well executed and coloured figures of seven of the novelties. We earnestly

recommend this little pocket volume to our readers, and believe that any one buying it will consider his half-crown well laid out.

Since the above was written, a new edition has been called for: we wish it every success its author could wish.

THE LATE PROFESSOR EDWARD FORBES.

BY ONE OF HIS PUPILS.

"NATURE, a jealous mistress laid him low.
He woo'd and won her; and, by love made bold,
She show'd him more than mortal man should know;
Then slew him, lest her secrets should be told."

THE NATURALIST would but ill fulfil its duty to a numerous circle of its readers, were it to omit a brief notice of the distinguished philosopher whose name is at the head of this page, who has been so lately called from a sphere of extraordinary usefulness to the enjoyment, we trust, of more elevated views of those mysteries whose solution was the one object of his life, and an endless communion with the God of Nature. And yet what shall we write? Should we tell of his childhood, youth, and manhood; his struggles after truth, successful through the very difficulties by which they were encompassed, we would be but rehearsing a thrice told tale. Were we to comment on his literary, his scientific, and his artistic merits, we would but feebly echo the sentiments of each and all of his readers. Or were we, in the spirit of the humourist, to record his sallies of wit, his youthful squibs, or his more mature poetical effusions, our sketch would bear too much resemblance to

"A joke scrawl'd on an epitaph."

All that we can do is to present a few facts relative to the departed genius, in hopes that they may stir up the fire of emulation in the bosom of some fellow student.

Edward Forbes was essentially a naturalist. Intended by his parents for the respectable profession of medicine, he had no alternative but to take out classes which he never attended and purchase books which he never studied. The details of a medical education were to him dry and unattractive pursuits, and in no way calculated to win him from his happy rambles in search of objects of natural history. It was in vain that friends persuaded, and he himself endeavoured. His love for Nature was too strong to be overcome. He was meant by Nature for one of her favoured ones; and accordingly a naturalist he became. Travel, in 1836, after he had quite forsaken his medical studies, but strengthened the natural bent of his inclination.

France, Algiers, and Norway added richly to his already increasing stock of specimens, and not a little to his knowledge of the natural sciences. Many papers had in the meantime been contributed to various literary periodicals; but, in 1838, he appeared before the public for the first time as the author of a book, entitled, "*Malacologia Monensis*," descriptive of the mollusca of his native island and its surrounding waters. Three years later appeared one of the best monographs which has ever issued from the press, *i. e.*, "*A History of British Starfishes*." The work is replete with every variety of information required, whether by the tyro or the philosopher. Every species is drawn with a fidelity only to be looked for in one who combined in a high degree the joint qualities of a naturalist and an artist. The accuracy of the scientific details, the clearness of his descriptions, and above all, the stamp of reality which the book bears on its every page, must endear it and the author to every lover of nature. He was no compiler, no writer of other people's discoveries, but a most scrupulous investigator. In company with his friend John Goodsir, now Professor of Anatomy, he had dredged many a long day for the materials for his work; adding by this means no less than eighteen new species to the Echinodermata of Britain. The last paragraph in the work gives us an insight into the secret of his success. "The naturalist whose acquaintance is confined to preserved specimens in a cabinet, can form but a vague idea of the glorious variety of nature, of the wisdom displayed in the building up of the atoms of matter to be the houses of life and intellect. And unless we study the creatures living around us, how can we gain that delightful knowledge. The passing note of an animal during travel is an addition to science not to be scorned; the briefly characterizing of a new species from a preserved specimen, if done with judgment, is of importance; but the real progress of Natural History must ever depend on the detailed examination of the beings gathered around us by the laws of geographical distribution, living and multiplying in their destined homes and habitats."

In 1841, Forbes sailed for Syria, in the ship *Beacon*, visiting and exploring with all his wonted enthusiasm, the greater part of Asia Minor. Shortly after his return, in 1843, he commenced his duties as Professor of Botany, in King's College, London. He was now in a fair way to fortune, every year receiving fresh tributes to his learning and genius. It were in vain to enumerate the many contributions, avowed or anonymous, which from that time to the year of his death emanated from his pen. By far the most important, however, was the work undertaken conjointly with Mr. Hanley, on the "*British Mollusca*." The work is in four large volumes, and contains besides lucid descriptions, exquisitely drawn figures of every species.

In 1852, he was appointed to the chair of Natural History, in the University of Edinburgh. His long cherished ambition was now satisfied, and he looked forward to making the museum where he had learned some of his

earliest lessons a place famous among nations. The summer course passed off triumphantly; and many a student who may hereafter rise to eminence must date the first kindling of the spark to that memorable occasion. The winter session commenced, and all seemingly went well, for six days; when he begged the class to excuse him lecturing on the succeeding day, (Friday), as he thought that by resting till Monday he would regain his strength; but he never entered his class room again. The writer can well remember the feeble, wavering step of the once strong man, as he ascended the stairs to the lecture room; and the quivering of his lip, while a placid smile strove in vain to conceal the pain raging within. He seemed a sudden wreck—a strong frame reduced to a shadow, but retaining in its fragile crust a mind as pure and undimmed as when a boy he first climbed Arthur Seat, or cast his dredge into the Frith. The Monday arrived, but still he was too ill to venture out; and many a gay face looked sad at the tale. Day by day passed on, and we, without, from feeling disappointed, began to dread. At length the fatal day arrived. On Saturday, Nov. 18th, at 6 p. m., in the 39th year of his age, his spirit passed calmly away.

No man ever had a wider range of friendship than Forbes; and few have deserved it so well. One writer has aptly said of him: "The petty vanities and heart-burnings which are the besetting sins of men of science and men of letters, had no hold upon his large and generous nature—he did not even understand them in others. A thorough spirit of charity—a complete toleration for everything but empiricism and pettiness—seemed to hide from him all but the good and worthy points in his fellow men. If he ever wronged a man, it was by making him fancy himself better than he was. Worked to death, his time and his knowledge were at the disposal of all comers; and though his published works have been comparatively few, his ideas have been like the grain of mustard seed in the parable. They have grown into trees, and brought forth fruit an hundred-fold."*

Others must write his biography, we but give a passing tribute† Of his poetical compositions we can spare room for but one example.

TO A STAR.

A NIGHT sky overhead;
 One solitary star,
 Shining amid
 A little cloud of blue, for dark clouds hid
 Its sister sunlets. On its azure bed
 It seemed a sun; for there
 No jealous planet shone, with which it to compare.

* Literary Gazette.

† Dr. G. Wilson, the biographer of J. Reid and Cavendish, has undertaken the task.

The dark clouds rolled away ;
 And all Night's shining train
 Of suns and stars,
 And the great moon, poured forth their silvery light.
 Where then was that fair star, which shone so bright ?
 Where was it ? None could say ;
 Yet there it surely was, although it seemed away.

So lustrous shall we find
 On earth each lustrous soul,
 When seen alone ;
 And though, when brighter forms around it press,
 We lose its form and doubt its loveliness,
 Still should we bear in mind—
That it is not less bright, although it be outshined.

Proceedings of Societies.

ENTOMOLOGICAL SOCIETY OF LONDON.—JAN. 1st, 1855.

E. NEWMAN, Esq., President, in the chair. Mr. DOUGLAS exhibited a living specimen of *Cratonychus castanipes*, Paykull, one of the *Elateridæ*, not hitherto recorded as British, recently found by him in the rotten wood of an oak.

Mr. STEVENS exhibited two rare beetles ; a male of *Jumnos Ruckeri*, from Darjesting, and a female of *Dicranocephala Wallichii*, from India.

The President exhibited a specimen of silken felt, formed by the caterpillars of *Saturnia Pavonia media* ; which were confined separately in receptacles, presenting no salient points to which the cocoons could be attached ; and so the whole stock of silk was spread over the smooth surface. Herr Retsch informed him that a series of very interesting experiments with these larvæ was now in progress at Vienna, and promised perfect success. The President read a short note on *Helobia impressa*, tending to show that it was distinct from *H. nivalis*, with which it had been recently associated ; but rather courting inquiry on the subject, than insisting upon the correctness of his opinion.

Mr. DOWNIE exhibited a bee-hive containing several improvements, the efficacy of which he had proved during three years : consisting, first, of a movable floor, by means of which the essential matter of removing dead Bees, &c., in winter, might be accomplished without admitting cold air ; secondly, a series of ventilators, to ensure the admission of air according to circumstances ; and thirdly, an easy method of feeding Bees.

Read: "A Memoir on the British species of the genus *Stenus*," by Mr. G. R. Waterhouse, and Mr. E. W. Janson. "Notes on the Economy of various Insects," by Mr. J. Curtis. And "Descriptions of some species of Brazilian Ants," by Mr. J. Smith; with "Observations on their Economy," by Mr. H. W. Bates.

Mr. BRAYLEY, referring to the habits of one of the species of Ants mentioned in his last paper, said, that the immense trains of Ants carrying the mutilated bodies of various insects, might illustrate the accumulation of insect remains, at times seen in the strata of the secondary geological formation; for if these trains had been suddenly covered up, the stratum in which they were imbedded would afterwards exhibit the same appearance as the deposits to which he had alluded.

Mr. SAUNDERS said, many circumstances, local or accidental, at times brought great numbers of insects together; he particularly remembered, at this moment, the vast quantity of the Beetle *Galcruca Tanacetii*, seen a few years since, on the Norfolk coast.



The Querist.

The Wood Pigeon (*Columba palumbus*).—A few lines, signed H. E. S., are inserted in your last number, commenting upon a note relative to the late incubation of *Columba palumbus*, which I communicated to your pages a considerable time ago. (Vide Nat., vol. iv., p. 43.) In reply to his inquiry, I beg leave state, that the eggs were *not addled*! And that the date on which I found them was, as nearly as I can remember, either the 21st or 28th of September, 1853,—probably the former.—J. H. DAVIES, Thirsk, Feb. 5th, 1855.

At page forty-eight of your present volume, a correspondent, W. C. H. of Cambridge, asks how he is to remove grease from insects. Perhaps you will be kind enough to publish the following extracts from Maunder's Treasury of Natural History, p. 766: "*Grease*.—When a thick bodied specimen, like the Ghost Moth, becomes greasy, immerse it in spirits of turpentine, and then stick it on a bed of calcined magnesia till dry, when the magnesia may be blown off." Again, on page 767, right col.: "*Caterpillars*.—Should a specimen become greasy, apply a little spirits of turpentine; if that is not effectual, scrape a little French chalk over it, expose the specimen to heat, and allow the chalk to remain some days."—H. M. MOUNTCASTLE, Fallowfield, Manchester.

Mr. Twinn refers all who are unacquainted with *Lastrea Collina* to Moore's Handbook of British Ferns, pages 123 to 129. The generic name of the Hawkweeds is *Hieracium*.—Birmingham, Feb. 6th, 1855.

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It is requested that all Communications be addressed in future to B. R. MORRIS, M. D., 38, Fawcett-street, Bishopwearmouth, Durham.

NOTICES TO CORRESPONDENTS.

Communications have been received up to April 12th, from E. WOOD, Esq.—J. GATHERER, Esq.—G. DIXON, Esq.—H. T. STANTON, Esq.—Mr. H. WATTS—R. BIRKBECK, Esq.

Contributions have been received up to April 12th, from C. E. SMITH, Esq.—Mr. T. EDWARD—Mr. J. MORLEY—A. C. MAINGAY, Esq.—C. W. ROTHERY, Esq.—H. R. BOLTON, Esq.

Owing to absence from home, many other Contributions have not yet been received. They will be duly acknowledged in our next.

RECEIVED: A Classified List of British Mosses, by George Dixon.

We greatly regret that our Subscribers should not have received the April *NATURALIST* at the proper period. The following explanation will, we trust, exonerate us from blame in the matter. The *NATURALIST*, being printed in the country, has to be sent to London some days before the end of the month. The parcel containing the copies was sent off by Railway on the 24th of March, but was mislaid by the Railway people until the 6th of April, when it was found in the station at which it had been delivered on the 24th of March; it was of course at once forwarded to London.

We have taken steps to sue the Company for damages, which we have no doubt we shall obtain.

We trust our friends will aid us in endeavouring to prevent this unfortunate occurrence from permanently injuring the sale of the Magazine.

The Editor begs to announce to his Correspondents, that he has arranged with his Printer, so that the Author of any Paper can have copies of his Article sent him by post at the following rates:—

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A SPRING RAMBLE.

BY T. SOUTHWELL, ESQ.



MANY are the delightful spots and quiet retreats to be met with, within an easy walk of most of our large towns; and yet how frequently are they known only to those few of their inhabitants who have made Nature their study, and love to hold communion with her, in her own wild domain. To many of these spots we have been introduced through the interesting pages of THE NATURALIST, by those who know how to value them, and can appreciate their beauties. The pleasure I have experienced in reading these papers has induced me to endeavour to describe one of my favourite rambles in the neighbourhood of Lynn, which I hope may not be altogether without interest.

On the morning of the 9th of April I started in company with a friend, my ultimate destination being the village of North Wootton, about four miles from Lynn. The route we had planned was, to proceed to Bawsey by the high road, and then make a direct cut across the country to N. Wootton, passing through Roydon fen on our way. Lynn, Bawsey, and N. Wootton form the three points of a triangle, each about equi-distant from the other.

The morning was most delightful, and, chatting gaily along the road, we soon arrived at a part of the heath called "Bawsey bottom;" here we left the turnpike, and entered a rough and wet patch of ground, studded with Alder bushes, and overgrown with coarse grasses and moss. In this spot, some years ago, my companion discovered the beautiful Fern, *Lastrea cristata*, growing in abundance; and, notwithstanding our numerous visits, it still flourishes, mixed with *L. uliginosa*, in undiminished quantities. Whilst walking through this "Alder Car," we were delighted with the first song of the Willow Wren we had heard this year. After crossing the turnpike again, we entered a part of the Car where the trees were of older growth, closer, more regularly planted, and interspersed with Birch. This, again, was a noted place to my fortunate companion, for here he had found the nest of the Woodcock; the young birds had left it, it is true, but the egg-shells remained near their leafy nest, and were immediately recognised by my friend, who has had no little experience in the eggs of British birds. Since that time we have not forgotten to keep a good watch; and although we have seen the Woodcock in the neighbourhood late in the season, no other nest has been found.

On emerging from the Alder Car, and entering upon the open heath, a Kestrel hunting for its morning repast came in sight. A Kestrel, although common in this neighbourhood, is never an object of indifference to me. I love to watch it suspended in the air, apparently without effort; then, a tremulous and rapid motion of the wings is seen, and it flies off, satisfied

with its survey; soon to "hover" again, and, if more successful, precipitate itself to the earth, and bear off the fruits of its persevering search. In this case, after hovering and dashing downwards, but stopping before it reached the earth, several times, it made one final and apparently successful stoop, and flew off in the direction of the fine old woods of Refley. The Kestrel is our most common Hawk, and is more numerous still in winter. I can bear testimony to the accuracy of Mr. Morris's statement, that the Kestrel often hovers at a much greater elevation than forty feet from the ground. (Brit. Birds, vol. i., p. 125.)

We had now quite left the road, and were passing at the back of a large sand hill, when an exclamation from my friend drew my attention to the first Sand Martin we had seen this spring, and soon after another flew past us; these were the only two seen by us during our walk. A small river, well stocked with Trout, one of which my companion tried in vain to "tickle," soon crossed our path; but after proceeding along its bank some distance, we found a shallow part, at which we forded, and directed our steps towards a long high hill which forms Grimstone warren. In the enclosed grounds at the foot of this hill, a great many Lapwings were brooding. On ascending the hill, the scene was desolate in the extreme; the only signs of life were the Wheatears, which flitted from stone to stone, and the white tails of the Rabbits, seen for a moment as they dived into their subterranean abodes. We stood in a little hollow, the view in the only direction in which any sign of cultivation would present itself being intercepted; and the whole scene was so wild and dreary that one might almost fancy it never had been disturbed by the presence of man. There is something very remarkable, too, in the stillness of a heath: here the solemn silence was broken only by the "wee-weep" of the Lapwings, which still followed us,—one of those "sounds" so well described by Cowper, which—

"inharmonious in themselves and harsh,
Yet heard in scenes where peace for ever reigns,
And only there, please highly for their sake."

On the very highest and most exposed part of the hill, the warrener had constructed a hut of stones and sods; we went into this rude edifice, and on the rough stone which formed the hearth lay a poor little Mouse—dead. A very fine white sand is dug from the side of this hill, and sent in large quantities to Lynn; whence it is conveyed by the colliers, in the form of ballast, to Sunderland and Newcastle, and disposed of to the glass works there.

The termination of the hill, which in summer is covered with *Pteris aquilina*, is rather abrupt; and at the foot lies Roydon fen, in which we were soon plunging. Here we found the Cranberry (*Vaccinium Oxycoccos*) in abundance, spreading itself over the soft mounds of *Sphagnum*, some of the

last year's berries still remaining on the plants. The Lousewort was just making its appearance, and the dead spikes of the Cotton Grass (*Criophorum angustifolium*) were still in some places surmounted by their white plumes. Towards one end of the fen a good many stunted Willow bushes are found; and on the somewhat firmer ground which immediately surrounds each bush, *Cladium mariscus* grows. At this time, the delicate fronds of *Lastrea Thelypteris* were just making their appearance; the drier parts were covered with the Bog Myrtle, and its yellow pollen rose in clouds as we walked amongst it. The botany of Roydon fen is at present rather scanty, but in June it presents a very different appearance. All the varieties of *Drosera* (*rotundifolia*, *longifolia*, and *Anglica*) are there; the beautiful little *Pinguicula vulgaris*, *Polygala vulgaris*, *Pyrola rotundifolia*, *Narthecium Ossifragum*, and later, *Parnassia palustris*, with many others. How few know the beauty of our bog plants; and yet how worthy they are of admiration. The Bog-bean, Asphodel, Pyrola, Sundew, and Grass of Parnassus are scarcely known to any but the botanist; and yet there are not many plants which exceed them in beauty. I generally find an impression that Cranberries grow on bushes; and few are they who are acquainted with the delicate creeping plant, and elegant little flower, which produces the berry so much admired when it reaches our table converted into tarts.

We found no Lapwings on the heath, they preferring the security of the enclosed warren; but Snipes and Redshanks were plentiful in the fenny part. The Short-eared Owl and Montagu's Harriers used to breed here, and a nest is still occasionally found; but they are all very rare. This is to be attributed to the game-keepers, who shoot them during the winter, or as soon as they make their appearance in the spring; but should they then escape, they are sure to fall an easy prey so soon as they have either nests or young. The Wild Duck breeds here too, but is seldom met with now. There is not much to be learned from the men cutting turf, with regard to the birds, although they may have spent their whole lives, and those perhaps long ones, on the spot; their general reply being—"Why, you know sir, we don't pay no attention to them 'ere things." They may be, and doubtless are, possessed of much information with regard to the habits of the birds frequenting the heath; but they do not know it, and it is very difficult to get at.

We had now reached the part of the heath through which the turnpike passes to Grimstone; and after crossing this, we ascended another barren hill, the chief vegetable productions of which were the Stonecrop (*Sedum acre*) and *Viola tricolor*; and, turning in the direction of North Wootton, shaped our course, as nearly as we could guess, in a direct line for the Poplars on the green. After walking for some time through fields, all of which were under cultivation, we arrived at a belt of Fir plantation, on emerging from the other side of which, a view suddenly presented itself

which has often called forth my admiration. The spot on which we stood commanded a fine view of the broad Ouse, glittering in the sunshine, and studded with vessels of all sizes, from the stately brig, to the little fishing boat whose sail looked a mere spot on the calm waters; and one or two steamers were impetuously pursuing their onward course, regardless of wind and current, leaving a long train of black smoke hovering in their wake; the open waters of the Wash forming the horizon. On the right, a long heath-covered hill, ending, before it reached the shore, in an abrupt headland, intercepted the view, at about two miles distance; the intervening country being beautifully varied with hills, woods, and dales. On turning to the left, the town and harbour of Lynn formed the chief objects in the distance; the fine old church of St. Margaret, and the spire of St. Nicholas, (lately taken down,) were well known features in the landscape; the masts in the harbour forming the background. I well remember the first lovely summer's evening, when, just as the sun was setting, I first saw this view from the spot on which we were standing; I had often seen it from other points, but it broke upon me so suddenly, on leaving the dark Fir plantation, that I was perfectly enraptured. It may be that old associations have endeared these scenes to me, but I never behold them without feeling emotions of the most exquisite pleasure.

We soon reached another turnpike, leading to Castle Rising; and here my friend left me, he proceeding to Wolferton wood, and I continuing my way over the heath to Wootton. As I walked along, a Viper lay basking in the sun, and I had almost stepped upon it before we were aware of each other's presence; when it soon disappeared in a mound of green moss. Arrived at the farm-house of my friend, I was received with unfeigned kindness; and, after changing my wet and muddy clothes, did ample justice to his hospitality.

I fear I have already trespassed too long, but cannot conclude without saying a few words on the benefits to be derived from such quiet rambles as I have endeavoured to describe. Not only is the body refreshed and invigorated, but a healthy tone is given to the mind. The more we study Nature's laws, the more shall we be impressed with the beauty and harmony of their arrangement; and the more shall we feel our own insignificance, compared with Him who could frame laws which should be immutable from the first, and yet perfect in everything! In the solitude of the wood or heath, the naturalist finds every facility for quiet meditation; and, withdrawing from all the cares and anxieties of the world, resigns himself wholly to the soothing and calming influences of the scene around. The solemn stillness of the wood is only broken by the subdued cooing of the Ringdove, the distant caw of the restless Rook, the laughing note of the Green Woodpecker, or the sudden flight of a startled Blackbird, as he seeks shelter from the intruder in the tangled copse. And thus he wanders on, treading a

carpet of mingled moss and flowers; the graceful Fern rearing its fronds at his feet, and the sweet-scented Honeysuckle spreading its delicious perfume in the air around. In scenes like this, the mind is raised above this world's cares; and then it feels how

"Nature never did betray
The heart that loved her;"

and how it is

"her privilege,
Through all the years of this our life, to lead
From joy to joy; for she can so inform
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor the sneers of selfish men,
Nor greetings where no kindness is, nor all
The dreary intercourse of common life,
Shall e'er prevail against us, or disturb
Our cheerful faith, that all that we behold
Is full of blessings."

Fakenham, January, 1855.

A GLANCE AT THE FEATHERED RESIDENTS IN, AND VISITANTS
TO, THE GROUNDS OF TERRICK HOUSE;
WITH A FEW REMARKS FROM PERSONAL OBSERVATION,
UPON THEIR HABITS AND PECULIARITIES.

BY STEPHEN STONE, ESQ.

(*Continued from page 58.*)

BETWEEN the two, we discover the nest of the common Linnet. (*Linaria cannabina*.) This nest is constructed chiefly of very light-coloured fibrous roots, with a few stalks of Galium; it is extremely well built and neatly lined with hair. Some nests of this species have a peculiar neat appearance, while others are very shallow and altogether exhibit a slovenly and careless style of architecture. The eggs are usually five in number; they vary almost as much in colour and markings as those of the Greenfinch: some specimens are of a pale sea green, without spot; others of a bluish white, also without spot; but those which may be considered characteristic of the species are of a bluish white, or greenish white ground, with reddish spots and specks of two or three different shades, varied also with spots of purplish grey, and an occasional streak of a darker colour: the eggs also vary a good deal in size and shape. This bird begins building about the same

time as the Greenfinch, but it is much less generally dispersed over this part of the country than that bird, it having favourite localities to which it annually resorts. Large furze commons are most in favour with this species as breeding places, where, if search be made, very many nests may be discovered within a few yards of each other. They are more or less gregarious throughout the entire year. Immense flocks are to be met with during the autumn, winter, and the early part of spring, when they do good service to the cause of agriculture, by consuming, in large quantities, the seeds of the common Charlock, (*Sinapis arvensis*), the warm and moderately pungent taste of which they seem greatly to relish. His Grace of Norfolk once, in evil hour, fancied he had discovered an article which only required strong and earnest recommendation, to become a favourite and a principal ingredient in the diet of the labouring classes. Now to encourage the foreigner by the introduction of a foreign article, to the prejudice of the home grower, is universally held to be bad policy; pity it is therefore that his Grace's attention had not been directed to that spontaneous production of our own native soil, the common Charlock; he would unquestionably have found the prepared seeds of this plant almost, if not quite, as stimulating, equally nutritious, and as well suited in most respects to the purpose intended, as his favourite curry powder; and could he have succeeded in overcoming the prejudices of the labouring classes, and prevailed upon them to give the preference to his stimulating diet, he might justly have been considered—what each Protectionist candidate for the honour of representing a favourite county in Parliament, on the eve of a general election always took care, in the palmy days of protection, to proclaim himself—"the real friend of the farmer," if not that of the poor man.

The notes of the Linnet are lively and agreeable when given as a solo, but when hundreds of voices are heard in concert, the effect is peculiarly pleasing. It is one of those glorious days which, to quote the Rev. Gilbert White, "no season but the autumn produces,—cloudless, calm, serene, and worthy of the south of France itself." The sun diffuses a cheering warmth without causing an oppressive feeling; a bluish haze hangs around the horizon and upon the summits of the distant hills;

"Slow through the air
Gossamer floats, or stretch'd from blade to blade
The wavy network whitens all the fields;"

the scenery too is of that gorgeous character, "which no season but the autumn produces." Ten thousand varied tints the leaves display,—green, gold, red, purple, brown; every imaginable shade of each meets the admiring eye. Here the bright red fruit of the hawthorn and the wild rose may be seen in great abundance, adorning like coral beads, the hedgerow, and holding out a cheering promise of support to the feathered tribes when stern winter has set in, and more substantial fare is denied them. There, in

small clusters, hang the jet-black berries of the privet and the blackthorn. There, too, the sloe bush is seen, its every branch strung as with beads of jet. The acorns on yon mighty oak are fast ripening—changing from green to golden yellow, from yellow to rich brown. Some have already fallen—brought down by the equinoctial gales which lately prevailed; and upon these the Pheasant, the pride and ornament of the game preserve, is feeding; while, in anticipation of the fall of the rest, that light, agile, airy, half-flying, interesting, and beautiful creature, the Squirrel, has gathered and stored up, for winter use, large quantities of them. Take your stand beneath the tree at nightfall, and you will find the field mouse busily employed in conveying them to its retreat for the same purpose. The Rook, too, by way of change of diet, feeds upon them to some extent. How beautiful looks that mountain ash, with its bunches of showy red berries; and the foliage of that beech—how rich, and warm, and glowing, are the tints! how inimitable the hues it displays. Its ripened fruit, too, has fallen; and here again the squirrel is feasting. Here, too, the great, the marsh, and coal Titmice are revelling in the abundance of food it yields. From long distances have they come—from various quarters are they here gathered together to partake of this annual treat. And how amusing it is to watch their lovely antics! never still—ever in motion; in constant change of attitude. Now suspended by the feet from the extremity of a slender branch; now clinging for a moment to the trunk of the tree; now engaged in sportive flight; now lighting upon the ground, and prying underneath the leaves in search of the fallen mast, a portion of which is presently found, seized upon, and conveyed to some convenient branch, or placed in some crevice, where the bird may be seen hammering away at it, with the utmost good will and heartiness, until the kernel is reached, the strokes from its bill, given with great rapidity, being distinctly to be heard to some distance. All is untiring activity and undisturbed enjoyment.

A peaceful and a holy calm steals over us in the contemplation of the scene before us; there is not, perhaps, that bounding, gushing, hilarious feeling the spring produces, but one fully as rich, though of a more subdued kind. The thought that all these beauties are on the eve of being swept away; and that in the course of a few days they will vanish from the sight, contributes, in some degree, no doubt, to check any exuberance of feeling. Let that thought remind us that we too must perish; that as the leaves fade away, so shall we decay: nor can we reckon upon attaining old age, or even upon growing up to manhood, ere we be removed from this earthly scene; for as the young and tender leaves are often rudely stripped, by tempestuous winds, from the parent tree, even before they have become fully expanded, so may we, at any age, be torn away, by "the pestilence that walketh in darkness," or by "the sickness that destroyeth at noon day." May death, whenever it comes, find us with lamps trimmed, and with lights burning.

But hark ! what sweet murmuring sound is borne upon the breeze ? now scarcely audible ; now falling upon the ear distinct and clear ; now dying away in softest cadence ; now again swelling and becoming louder, fuller, and more distinguishable ; and again sinking into a sweet and subdued murmur. From whence comes this sweet harmony ? Proceeds it from a choir of angels in yon distant Heaven ? Nay ! but from a choir of beings less exalted, but not less innocent ; from beings occupied like the heavenly host, in chaunting hymns of gratitude and praise to the Great Author of their existence ; from a flock of Linnets stationed on the tops of yon tall trees, does this charming chorus proceed. Happy in themselves, they diffuse happiness and enjoyment around them. Who can listen to their sweetly soothing melody, and not be touched with feelings of the liveliest gratitude to their Creator and ours, for having made them to solace us with their music ; to delight us with their beauty and vivacity, and to benefit us by their services. Innocent creatures ! Would that none could be found to harm ye. Would that man could clearly perceive, that in becoming your enemy, he becomes an enemy to himself. That in plotting your destruction, he is plotting against his own happiness and comfort, and contriving to lessen the sources of enjoyment with which a gracious God has blest him. But the curtain falls.

And when it again rises, the scene has changed. An interval of a few weeks has elapsed, and the gorgeous beauties, upon which we lately gazed, have passed away. A north-east wind is now howling among the naked branches ;—those same branches which we lately beheld clothed in the utmost splendour and magnificence ; upon which, hues, bright as the gold of California, lately shone. The snow has been drifting throughout the night, and has now covered the surface of the earth. Vegetation lies securely hid—wrapped up and protected by this beautifully-contrived covering, from the severity of the frost which accompanies, or which is immediately to follow this storm. But for this protecting mantle, what dire havoc might not the frost create among our more tender plants ; nay, even the more hardy ones would greatly suffer ; and our wheat plant, that inestimable boon from which—it need not be told—bread, “the staff of life,” the staple article of food in all civilized countries is derived, would at times be in imminent danger of perishing. Thus do we invariably find, that in every dispensation of Providence, judgments are tempered with mercy. Winter is approaching with rapid strides. The temperature has fallen ; the cold is increasing. Where are now the merry songsters, whose harmony lately cheered and delighted us ? They are still in flocks ; but not now sitting calmly upon the tops of tall trees, and pouring forth their glad hymns of praise ; not now preening their feathers, arranging their plumage, and sunning themselves in the fullness of enjoyment ; but moving hurriedly to and fro in search of food and shelter.

Within musket shot of yon barn door, a space some twenty feet by three or four, is strewn with seeds, of which the Linnet is very fond, as well as with the refuse of grain which proves attractive to other species: this is provincially termed a "scrape," and a very expressive term it is, for the poor birds who may be driven by hunger to visit it, soon find themselves in a sad scrape. Enconced within the barn, through the door or boarding of which, a hole has been bored sufficiently large for the muzzle of the fowling piece to be thrust through, and a view of the "scrape" obtained as well, is one who arrogantly styles himself "Lord of the Creation," but whose doings proclaim him to be, in reality, merely a petty tyrant over the weaker portion thereof. His eye is fixed with a sinister expression upon the treacherous bait his hands have spread. The murderous gun is lying beside him, loaded with small shots; the intention of the barbarous gunner being to maim the greatest possible number, rather than to kill a few outright. The poor birds begin to assemble; timidly they approach at first; but, as neither net nor trap of any kind appears in sight, they gradually acquire confidence; their numbers swell and increase every minute, until at length the whole "scrape" appears animate with life; from one end to the other it is covered with Linnets, Greenfinches, Chaffinches, yellow, common, and a few black-headed Buntings, with here and there a Mountain Finch. The Sparrow keeps aloof; constant persecution, even from its cradle, renders this bird suspicious of everybody and almost everything: it knows from bitter experience, that, except in very rare instances, danger lurks wherever food is too invitingly spread, or wherever a superabundance of it is to be found. Upon the dense mass of innocent beings, the gun is now brought to bear; the finger of the murderer is upon the trigger; an explosion follows, and that which a moment before was a mass of living creatures, sound and healthy, is now a mass of dead, dying, and mutilated bodies. Scores are left dead upon the spot; scores more are writhing in agonizing pain from broken limbs and other dreadful mutilations; while many others are to be seen dropping here and there in the course of their flight, sinking exhausted from mortal wounds. On every hand may be seen miserably crippled individuals fluttering away in terror, and vainly seeking a hiding place. The author of all this misery issues forth to secure his victims. To capture the wounded is his first care, knowing that the dead cannot escape. Here, he seizes upon a poor blind wretch; there, upon one trailing along with broken wing. Oh! worse than savage! does not its terror-stricken air, as thou seizest it—the dreadful palpitations and throbings of its little heart, thou canst not but feel as thou pressest it in thy blood-stained hand, awaken within thee a feeling of pity or remorse? List to its terrified cry—its piteous screams! Look in its dear little eyes, how imploring is their expression! How eloquently they appeal to thy compassion! And can they appeal in vain? If they can—if thou canst indeed close thine eyes to the poor little creature's supplicating look—if thou canst

shut thine ears, and allow it to pass unheeded—if thou relenest not—if thy soul doth not melt, and remorse for the deed thou hast committed, seize not upon thee, and thou resolvest never again to be guilty of so barbarous an act—though thou wert possessed of the wealth of the Indies—though luxuries of every kind were at thy command—though rank and station were thine, the beggar with a feeling heart, and humane disposition, and a compassionate nature, were more to be envied than thou. What has it ever done to deserve this horrible cruelty at thy hands? Its life was far more blameless, and probably more useful than thine own. Had it done thee any injury, there might have been some excuse for thee; but so far from its being injurious to man, it is, I repeat, one of the many benefactors with which an all gracious providence has surrounded us. If deeds of blood delight thee—if thou canst feel pleasure in scenes of carnage and slaughter, why not betake thyself to the battle field; there thou mightest be honourably employed in the cause of justice and of freedom. There thou mightest signalize thyself. There ample opportunities would be afforded thee of showing thy valour,—if any be in thee,—and of obtaining renown. In lending a helping hand to stay the torrent of despotism which has set in from the north, threatening to overthrow kingdoms, and endangering not only the peace of Europe, but of the world, thou mightest at once gratify thy taste for blood, and render good service to thy country, and to all peaceably disposed governments throughout the earth. To aid in checking the mad ambition of a Despot,* who seeks, by aggression, to obtain unlimited power, would, methinks, be far nobler employment than slaughtering beautiful, unoffending, harmless, and not only harmless, but service-rendering, benefit-conferring birds.

Turn we now from this sad scene,—this scene of bloodshed and cruelty which nothing would have induced me to depict, but an earnest desire of seeing such scenes become less common, such barbarities of less frequent occurrence; nay, of seeing them entirely put an end to. Would that I could be at all instrumental in bringing this about; could I but succeed in converting one enemy of the feathered tribe into a friend, I should then feel that I had not occupied the valuable pages of *THE NATURALIST* altogether in vain. Here let the curtain again fall.

And let it again rise, and disclose a more agreeable scene.

The earth is still covered with snow; the weather has become more intensely cold; the pools, and lakes, and streams, are completely frozen over. Winter reigns supreme. There is more apparent cause for despondency

* Since these remarks were committed to paper, death has suddenly and most unexpectedly terminated the earthly career of this Despot. May the eyes of his successor be opened to the reckless folly, the madness, and the extreme wickedness of the course he pursued; a course which, let us charitably hope, though he may have exhibited no outward sign, he nevertheless, in that brief period which was allowed him for preparation, after receiving the awful summons to appear in the presence of his God and render up his account, in the depths of his heart truly repented himself of.

and gloom than at the time the last scene opened. The poor birds might reasonably be expected to be in a worse position now than then; but we are now introduced into the "domain" of one who loves them; who rejoices in every opportunity that offers itself of testifying that love; and who is earnest in the desire and unceasing in the endeavour to ameliorate their condition, when for a time the earth is, as now, locked up, and the supplies it wont to yield are cut off from them. We behold a space of some extent in a sheltered situation, from which the snow has been carefully swept. Over this space provisions to suit all tastes have been strewn. Here the Blackbird and the Thrush thrive and become fat during the most protracted frosts. Here Sparrows—for a long course of kind treatment has disarmed even the Sparrow of his suspicions—Finches, Buntings, Titmice, and other birds revel in enjoyment. No murderous gun is here pointed at them; no treachery awaits them here! There is no concealed snare, or trap; no enemy is lying in wait to destroy; no danger is lurking around. Eyes there are, bent upon them from the dining or drawing room windows, but not with a sinister expression. Eyes—friendly, admiring eyes, are bent earnestly upon them, complacently witnessing their enjoyment; glancing from one species to another—from the common and soberly clad Hedge-Warbler, to the somewhat rare and handsomely-plumaged Grosbeak—and noting the particular habits and manners of each member of this truly "happy family," of which our favourite Linnet forms a part.

Mark the restless activity of the Nuthatch yonder; how rapid are his movements; how lively all his actions. Now he seizes upon a nut, and wedging it firmly in a chink in the bark of an elm close by, provides us with a vast fund of amusement in watching his operations. It seems not to matter at all to him whether head or tail be uppermost, or whether both be upon a level. Now he may be seen in a vertical position; now in a horizontal one: again he changes that position for another; nor ceases changing until he finds himself in that in which his blows upon the nutshell tell with the greatest effect. But though intent upon his work, he keeps a watchful eye upon everything that passes; like a wakeful and a faithful sentinel, he is not to be surprised at his post. After every two or three blows, a keen and scrutinizing glance is thrown around. The Rev. F. O. Morris, in his charming "History of British Birds," now being published, has happily caught this act of wariness in the bird; and admirably has he depicted it. The representation he has given of the bird is altogether a most life-like one. But more of him, *i. e.*, the Nuthatch, anon. Supplied with a sufficiency of food, the individuals who form this interesting "Christmas party" feel not the cold—it harms them not. Wind and storm are by them lightly regarded. Sheltered among the evergreens, or reposing in the side or under the thatch of some friendly rick, they securely and comfortably pass the night, and throughout the day are cheerful and contented. Asylums like this are

unfortunately not common; would that they were. What a source of rational enjoyment would they open to us! How greatly might the pleasures of life be thereby increased. How well would these interesting little creatures repay us for the trifling expense we should incur in supporting them when the inclemency of the weather has driven them to want. Kindness is rarely thrown away upon birds, wherever else it may be found to have been thrown away.

One more scene in the life of a Linnet, which, like our own, is chequered with good and evil, with clouds and sunshine, calm and storm, light and shade, joys and sorrows. But whether with us joys or sorrows mostly prevail—whether we bask in the sunshine of prosperity or be overshadowed by the clouds of adversity, the three-score years and ten allotted to man upon earth will soon pass away; and then, ah! then, high and low, rich and poor, the prince and the peasant, master and servant, maid and mistress, will be laid low together. There will be an end to all earthly distinction then. Neither wealth nor titles will longer avail. Ranks and stations will be swept away. Nought will avail us but an interest in that one great and perfect atonement made by the blessed Redeemer for the sins of the world—the shedding of his most precious blood. God grant we may obtain an interest in that atonement!

Winter with its storms and cold has passed away. The frost which prevailed in January, and the snow with which it was accompanied, have vanished, not without having left behind them immense benefits to the agriculturist. The action of the frost, followed by the melting of the snow, mellowed “the stubborn glebe,” and rendered the task of the husbandman, in pulverizing the soil and preparing it for the reception of the seed about to be sown, a comparatively easy one. The drying winds of March further and most powerfully aided him in the task, and enabled him successfully to complete it. How faithfully kept has been the promise God gave to Noah after the deluge: “While the earth remaineth, seed time and harvest, cold and heat, and summer and winter, and day and night shall not cease.” In all things “He is faithful that promised.” The genial showers of April have refreshed the earth, and caused “the tender herb to spring,” the grain to vegetate, the grass to grow, and the buds on hedge-row and tree to expand into leaf or blossom. The aconite and snowdrop have come and gone, and the primrose and violet have succeeded them. The daisy, buttercup, and cuckoo-flower bedeck the meads; the bluebell and wood-anemone the copse, which is also vocal with the notes of the Blackbird, Song-Thrush, Nightingale, Blackcap, and other “sweet warblers of the grove.” Here the beautiful brimstone Butterfly may be seen flitting about “like an animated primrose,” as Miss M. E. Catlow, in her “Account of the Diurnal Lepidoptera of Sussex,” published in vol. ii. of *THE NATURALIST*, has very happily expressed it,—goodly sized petals, though, that primrose displays. Here, too, worn speci-

mens of the Nettle, Tortoise-shell, and Peacock Butterfly may be seen spreading themselves out in the sun and enjoying the warmth after having had their energies cramped during the winter months, in which they had been lying in a half torpid state in the thatch of rick or outhouse, or in some convenient nook or corner, cranny or crevice. The small whites, too, are beginning to emerge from the chrysalis state, and one by one to make their appearance. While around us

"The wild Bee wanders humming
Like a blessed fairy thing."

Warmed into life, and called into active existence by the reanimating power of the sun's rays, it is now collecting wax to form its cells, the future birth-places of a numerous progeny, which shall duly arise, and through the live-long summer gather sweets "from every opening flower," their ceaseless hum resounding through the dale; the "soothing dreamy sound" tending gratefully to allay excited feelings; lulling the heat-oppressed and weary to repose; and powerfully contributing to "steep the senses in forgetfulness."

Each season has its charms: but charming beyond all other seasons is the Spring. Each season discloses beauties peculiar to itself. Each in its turn contributes largely to the enjoyment of the lovers of Nature. As regards scenery, Autumn unquestionably bears off the palm. But Autumn speaks of glories departing, of beauties decaying, of splendours vanishing; while the Spring is full of life, of hope, of increasing animation. It speaks of growing, of expanding beauties, of unfolding joys, of greater pleasures yet in store, of brightening prospects. Light and buoyant become the spirits; joyous and gladsome the feelings. The soul is attuned to harmony. Reclining upon some sunny bank, and richly enjoying the beauties with which we are surrounded, sing we, as sang the poet Thomson:

"These, as they change, Almighty Father! these
Are but the varied God. The rolling year
Is full of Thee. Forth in the pleasing spring
Thy beauty walks, Thy tenderness and love:
Wide flush the fields; the soft'ning air is balm;
Echo the mountains round; the forest smiles;
And ev'ry sense, and every heart is joy."

We wend our way to some common or heath where the furze abounds, whose "flowers of scented gold" in countless myriads charm the eye. Here the bridal song of the Linnet is heard, and here arrayed in his bridal robes is he seen. Of bright vermilion is his vest; a frontlet of the same bright colour is upon his forehead; a rich tawny, varied with white and brown are the remaining colours of his dress. He looks a bridegroom every inch. Of handsome and dashing exterior; pleasing, gentle, and persuasive in manners, —to gain a bride were to him no difficult task. The dress of the bride is far plainer than that of the bridegroom; it is of that sober and modest

character so well befitting the sex. The fond dalliance usually succeeding the fastening of the nuptial knot having somewhat subsided, the "happy pair" have settled down in earnest to the duties attendant on married life. They have built them a house; and she which was late a "bride expectant," is now an "expectant mother." The eggs have been laid, and she is engaged in incubating them; while, like an attentive husband, he is doing his best to lighten her arduous task, and to aid and cheer her in the performance of the duty which has devolved upon her. A few more days, and their little family will demand all their care and attention; and right cheerfully will that care and attention be bestowed: faithfully and affectionately will they be nursed, fed, and tended; the parents fearlessly exposing themselves to danger, if necessary, in order to draw off attention from their offspring; nor will their care of them cease, until they are perfectly able to shift for themselves; neither will they then part company, but continue to live together in harmony, till, united with other families, they become "part and parcel" of one of those immense flocks we meet with after the close of summer.

To whatever part of the common we may direct our steps, the blithesome lay of the Linnet will not fail to be heard, numerous pairs of birds being there located for the purpose of breeding.

The description I have given of the male bird in his nuptial dress, does not apply to all males indiscriminately; for here we find some in almost as plain attire as their more modest partners, while between these two extremes in dress will be found many intermediate varieties; some having the breast and forehead faintly tinged with red; others the breast alone; while one may occasionally be seen with a brilliant red breast, but without any discernible tinge of red on the forehead. What may be the true cause of this diversity in the plumage of the male Linnet remains yet to be discovered; by some it is thought to depend upon the age of the bird; this opinion may or may not be correct. There is much in the history of the Linnet still shrouded in obscurity; much that still requires clearing up. Formerly two distinct species were supposed to exist, one called by Montagu, the Brown Linnet, (*Fringilla linota*), the other, the Greater Redpole, (*F. cannabina*), nor is it, at the present time, perfectly clear that there may not be more than one species, though the almost endless variety of plumage which displays itself, would seem to be evidence rather against than in favour of this supposition. Meyer expresses himself doubtful upon the subject. Then, with reference to the bright red colour with which some males in the nuptial season are adorned, is it the result of a vernal moult? Ornithologists tell us it is not; but that it is produced, or rather brought out, by the falling off, or wearing away, of the tips of the feathers, which were of a brown colour, and concealed the bright colouring underneath. I imagine there must be something besides this in operation, else how is it that caged specimens never exhibit this bright colouring: if the sole cause were the wearing away of the brown

tips, one would suppose this would be as likely to occur in the case of a caged bird, as of one possessed of its liberty. From the fact that caged specimens never do exhibit this bright colouring, it may not be altogether unreasonable to conclude that the spirits of the bird may be either remotely or nearly connected with the matter; like the flush of animation which is seen to bedeck the cheek of the happy and light-hearted among ourselves, in contradistinction to the pale, sickly, and care-worn countenance of the sorrowful and dejected.

In one instance I found an egg of the Cuckoo in a nest of the Linnet. The same remarks would apply in this instance as in that of the Greenfinch, and the same question would arise in the event of the egg having been hatched by this bird.

(To be continued.)

NOTES ON THE HABITS OF THE RING OUZEL. *MERULA TORQUATA*.

BY E. M. A.

GENTLE reader, have you ever been on Dartmoor? If you have, and if you are a true naturalist, you will look back to that period as a much-to-be-regretted and well-remembered time. From the highest "Tor" that crowns yon hill, down to the marshy hollow that lies beneath your feet, there is ample scope for the exercise of your ornithological, botanical, or geological propensities. You will remember the almost alpine mosses that clothe the rocks; the delicate ferns that cluster thickly in the numerous ravines; and the beautiful eriophorum, anagallis, or menyanthes, of the bogs. Perchance if this, my first offering to *THE NATURALIST*, meets with a gracious reception, I may hereafter give you the result of some botanical rambles among those favoured regions. My present object in taking up the pen is to give you a slight sketch of the Ring Ouzel, who has ever been my especial favourite, and has ever struck me as not the least ornament of those wild districts in which he delights.

Do you want to see him *at home*? Then take your fishing rod and wander up one of the numerous small streams that contribute their waters to the magnificent Dart. "Owbrook," or "Cherry-brook," or the east branch of the Dart itself will answer your purpose. By the time you have ascended to the more narrow parts of the stream, where it appears as if it had lost its way, chafing among the grey boulders of granite, you will, in all probability, have ensnared some dozens of small though brightly coloured trout, and (what is more to our present purpose) will have arrived at the abode of the

Ring Ouzel. His wild note will first apprise you of his proximity, and you will then catch a sight of him, perched on the top of some grey rock, at a cautious distance from you, and looking at you with a degree of shy curiosity, as if he had never before seen a human being—which is very likely the real state of the case.

His similarity to the common Blackbird will immediately strike you; but there is an air of freedom and wildness about him which his more tame congener does not possess. To my mind, there is almost as great a difference between them as between the waddling tenant of the farm-yard, and the fine old Mallard, who, on some bright, frosty morning, starts from the sedges on some river bank, and with the water dripping from his orange feet, wings his way through the bright, cold air! Far be it from me, however, to depreciate the Blackbird. Every lover of the country and nature must love him, but, whilst he savours of the smoothly-mown lawn and trim hedge-row, the Ring Ouzel reminds you of the purple heather and granite rocks among which he makes his home.

Like the Golden Oriole, his beautiful though rare relation, he is one of our summer visitors. Gilbert White (blessings on his memory!) was the first to establish the fact of his migration. He makes his appearance about the same time as the swallow, at which period he will occasionally linger about the gardens and plantations which adjoin his native moors. About the end of September, or beginning of October, the mountain ash berries, which grow in abundance about the banks of the Dart, would detain him for a short period from his southern migration. I have been assured, by residents on the moor, that Ring Ouzels may be found there during the winter, even in snow storms; but I must confess that I have never seen them at such times. I do not know, however, why he should not manage to pick up a subsistence during winter, as well as various more delicate birds than himself. In summer he feeds luxuriously on the whortle berries, (*vaccinium myrtillus*), which cover a considerable part of Dartmoor; and from his partiality to the neighbourhood of water he doubtless picks up worms and small mollusca about the edges of the stream.

Rather late in May, the business of incubation commences, which process, again, bears great similarity to that of the Blackbird. The nest of the Ring Ouzel, however, is almost invariably placed on the ground, that of the Blackbird rarely so. It is concealed with great care under shelter of a tuft of heath, or furze, upon the bank of some rivulet. It is composed of similar materials to that of the Blackbird, with the exception of no clay being employed, which gives it a somewhat lighter and looser construction. The eggs vary much in shape and colour, but generally are very similar to some varieties of the Blackbird, though of a rather rougher texture. Those in my collection are of a pale green colour, with rather large blotches of a reddish brown, and I have seen many others like them. I have also one egg from

the Yorkshire moors, which is thickly dotted with greyish brown, in the manner of those of a Jay.

The female is greatly attached to the young, and will, I have been told, sometimes allow herself to be taken off the nest. The young birds are of a brown colour, and entirely without the white gorget which in the male is so conspicuous. This has caused them to be looked on as a distinct species. In the female, the white is always interspersed with some dark-coloured feathers.

The song of the male is wild and desultory, and harmonizes well with the cry of the Curlew and Golden Plover, who are usually his near neighbours. If suddenly started he has a cry similar to that of the Blackbird in a like predicament.

They are not rare on various parts of Dartmoor, but can hardly be called very common. On some of the Yorkshire moors they are more plentiful, and I have been told of their nest having been taken there among the ivy covering a rock, at a considerable elevation above the ground.

If you shoot and eat them, (mind! *I* never did either), you will find them not to be despised. Yarrell says that, in France, where they frequent vineyards and feed upon grapes, they are esteemed a great delicacy. I have usually found that they are careful to keep out of gunshot, and am glad of it, for I should regret the death of such a harmless and joyous denizen of the gray moors.

Here, in this smoky emporium of the cotton trade, amid all the abominations of a large manufacturing town—"deformities of brick and mortar penning up deformities of mind and body"—I cannot but look back with regret to the sunny air, the purple moors, and the rushing streams of beautiful Dartmoor. Man, however, has better and holier objects in life than even the harmless study of nature. *I* must remember this; but if thou, gentle reader, hast time and opportunity to visit the Ring Ouzel on his native granite, and if what I have written leads you to feel an interest in him, my writing this will not have been altogether useless.

For the present I bid you heartily farewell.

Manchester, Sept. 7th, 1854.

THE SWAMPS OF THE MISSISSIPPI.

BY GEORGE DONALDSON, ESQ.

(Concluded from page 85.)

Before clearing out of the brake, I determined upon killing one of the largest Alligators I could find, for the purpose of procuring his TEETH, as a memento of him; and I succeeded in doing so. I have 72 of them along

with me for your inspection, which will enable you to judge of his size compared with the specimen from the Nile, in the museum of this institution. I employed a negro to assist me in hunting up a big specimen, and, if possible, the one which ate up his brother; for his brother was lost a few months previous, and as Uncle Daiv had his own suspicion of what had become of him, he kept up a constant war upon Alligators; or, to use his own words, he kept "*workin' on dem*," with the expectation that he might one day alight upon the right one. Daiv was just the man for me, and as we went off together in our pirogues early in the morning, I arranged with him that he should return about twelve o'clock to the place where we parted, and by that time the day would be sufficiently warm to enable us to catch them basking in the sun. He hunted me up about the time appointed, and after giving me instructions which course to paddle, we soon lost sight of each other amongst the marshy islands so numerous in the lagoons.

I observed many tracks which the Alligators had made by mashing down the cane, the breadth of which was a very good guide to the size of the animal. They very frequently form a semicircular retreat amongst the reeds, entering by the one end and making their exit by the other; and as they often lay concealed half way round, it is difficult to ascertain which way the head points. Much danger is to be apprehended from the tail, and it is nearly impossible to kill them unless by shooting them through the head; and the only way to get a chance of doing so is by facing them, which frequently is not very advisable, for both the speed and animation of an Alligator at certain seasons of the year, are not generally understood. During my stay amongst the men, a party of us went off some distance to a *dry prairie*, (which I called a very marshy one), for the purpose of shooting Ducks; in which we were very successful; and in place of burdening ourselves by carrying the Ducks about on our persons, we stored them in one large *pile*, or heap, in order to remove them at the end of the day, and on going back for that purpose we found them surrounded by Alligators, snoring and quarrelling amongst themselves for the spoil; and as they had eaten up nearly the whole, and mashed up the balance, we discharged our guns into the crowd, and sloped as quickly as possible. Had it not been that these animals had their supper provided, the probability is that they would have hunted us some distance,—a circumstance which they have frequently been known to do. One of the men, called Marsico, informed me that he made a narrow escape that very day, by one snatching at him when on his way through the brake; and it was only at the end of fifty yards that he shook the enemy off. The speed of the Alligator, during that distance, is quite equal to that of most men; and I am of opinion that, with better footing, the race would prove in favour of the Alligator. It was a common opinion amongst them, that, at the expiry of fifty yards, a man had little to fear; but it not unfrequently happened, as one of them remarked, that the running

was taken up by another monster at that distance, which entitled a man to an additional fifty yards.

On emerging from a very swampy place, which I had considerable difficulty in getting through, I observed Daiv coming out of a lagoon at such a rate as convinced me that he had found a burster, (a western term invariably used to express anything beyond the usual standard). As he holloed for me, I went skimming along as if I had been raised in a wigwam. We entered the lagoon together, and on reaching the far side, I found the Alligator embedded amongst a quantity of weeds and sword grass, into which his immense weight had partly sunk him, although his head and the greater portion of his tail were quite exposed. We held a council of war as to the best mode of attack. I proposed several things, which Uncle Daiv would *not* second, informing me that, when the Alligator did start, he would make for the lagoon by the shortest tracks. As this was the only point I could see him from, I was exceedingly unwilling to change my opinion; nor did I. As no time was to be lost, I suggested that we should get as near to him as possible, for to shoot him with No. 6, at fifteen yards distance, would amount to about the same thing as spitting in his face; and the only plan to accomplish this, was, to run our peroques over the reeds, and up till within five yards of him. This could only be done by my getting into Daiv's canoe, and shoving my own ahead. This was the very thing; but unfortunately, in making for my own canoe, I sunk up to the waist. Daiv hauled me out immediately by the neck, amidst a frightful storm of snoring and hissing, which the monster had got up *out of compliment to me*; in my confusion I could not get at my gun, and on searching for my knife (a bowie one, by the way) I found that I had left it amongst the shells. I was all right very soon, and as the brute had not shifted his position, I made another attempt to get into my peroque, in which I succeeded. I snatched up my gun, in a second, with the intention of shutting up both his eyes; but, as I could only see one of them, I sent the whole charge into *it*, which caused him to raise his head and open his jaws, (to allow me to look down his throat, I suppose), for the hissing and snoring which followed were tremendous. On turning his head and looking my way, an opportunity was afforded me of filling up his other eye; this was my intention from the first, for I knew very well, that, if I could shut him up, the odds would be in my favour. I loaded again, and gave him two other in the same place; and the wallowing, snoring, hissing, and splashing, was renewed with redoubled fury. It was at this moment that I discovered the great muscular violence of the tail; he cleared the cane brake like so much chaff around him, showers of which fell about me, and in some of the violent surges which he made with his tail, he brought it completely round to his shoulder, which was very far beyond what I considered any such animal capable of doing. I remarked this to some of my foreign acquaintances, who appeared all perfectly aware of the

fact, and, if I properly recollect, one of them told me that a person whom he knew, had either got his legs broken or severely injured by standing close beside the head of one some short time previously. I gave him right and left again, and with the exception of what shot entered his eyes, the rest rattled off his head, as peas would do from the head of a cask. Daiv, who I afterwards discovered had partly retired from the scene, holloed out for me to "*keep workin' on him,*" and to shoot him under the jaws. As he kept lumbering about, and occasionally raising his head, I planted it all in the right place, and the next barrel I shot down his throat. As the enemy had not yet surrendered, I fired two other shots into the under part of his body, from which the crimson flowed most copiously. Keeping my eye steadily upon him I loaded again, upon the principle that the best way to prevent war is to be prepared for it. As he appeared *rather overcome*, I stepped out of my canoe, up to the knees, amongst the decayed and slushy *materielle*, with the intention of stabbing him with my clasp knife between the spaces of the scales, and, if possible, betwixt the ribs. Before doing so, I sat down upon his shoulder and cut out one of the horny projections from the upper part of his neck, (which I have also here), and by way of completing his destruction I stuck my knife into his body, which caused him to snort with such violence, that I started for my pirogue so very quickly that any person would have imagined I was in a hurry.

I must have presented a very ridiculous appearance in scrambling and floundering through the reeds, for not only was I up to my knees, but my arms were occasionally up to the shoulders. I called out for Daiv to kill him, but as he had all along considered me the greatest Alligator of the two, he thought there was no necessity for rendering me any assistance. I shoved my pirogue before me, and was soon in the lagoon, and on my way to the Shells. My sooty appearance, arising from perspiration and gunpowder, would nearly have guaranteed 750 dollars for me in the slave market of New Orleans. The emission of musk during the struggle was particularly strong, and on cutting off his head the following day, it was doubly so, from having severed the vessel containing the fragrance. The following morning, at the usual hour, I rose and shook myself, and providing myself with my gun, an axe, and my bowie-knife, I slid into the marsh, and taking up a position as formerly, I shot a number of Ducks and Coots about day-break; and about eight o'clock I hunted up the fallen enemy. As I had no assistance, it gave me much trouble to get my pirogue into its old place; he was just laying as I left him, and in the full belief that I had *bowled* him over, I went up to him, and with my whole strength I struck the knife up to the handle into the side of his throat; he turned *his head immediately* round and *nearly caught me* by the shoulder. If I was in a hurry before I was in a greater one this time. I laid hold of my gun and gave him two other remembrances of his old acquaintance; I loaded as quickly as possible, as the hissing and snoring

had commenced again; but as I was not be *hissed* off, I searched my pockets and found one of my rifle balls, which I put into my gun, and with which I gave him the finishing touch. I burst a hole in his head sufficient to admit my hand, I then mounted on his head and gave a hurra for myself; I then shouldered my axe and commenced cutting off his head, and as I have copied an extract from an old letter, which I sent home for the amusement of some of my young relations, describing this operation, you will probably permit me to read it.

"Of all the scenes this must have been the most *classic*. I was standing up to the knees in water and broken cane, making the fragments of bones, blood, and water fly in every direction,—a liberal proportion of which I dealt about myself, and it kept dripping all the time from the rugged points of my *long beard*, for you must understand that you would require to look twice before you would recognize your ole uncle, for it is a long time now since he lost sight not only of his chin but his mouth too."

The day was fearfully warm, and I was very thirsty, and having no opportunity of drinking from a crystal spring, I took a good draught from the neighbourhood of my knees, which was rather *highly coloured* (of course from the operation) and resembled golden sherry *more* than water from the fountain. I kept hewing till I cleared a way down through the bones, and the next difficulty was to get the skin of the throat cut through, in order to separate the head from the body; to turn round the head was very far beyond my strength, besides the uncertain footing I had to contend with; to accomplish this, I sunk my arm up to the shoulder and kept sawing and cutting with my knife till he looked more like a log and less like an Alligator. After some hard work, I got his head into my peroque, and just as I was putting off, a Turkey Buzzard made his appearance, and after describing a few circles, he lit upon the admiral, but before he could tap him, I reckon he would require to go home and sharpen his bill.

I got safely across the lake and through the creek, and deposited my specimen at head quarters; the surprise of some of the men was great, for although they had all seen hundreds of Alligators, they acknowledged that one of his size was not to be seen every day. I opened his mouth and gagged him to shew off his teeth, which added considerably to his expression, and in this fix I left him to pass the night with a number of Cranes, Egrets, Ducks, Coots, and Racoons, which were laying in confusion all round. The following day, I split up his jaws with my axe for the purpose of boiling them, in order to extract the teeth, and during this process, I was particularly struck with the manner in which these animals appear to *shed* their teeth; it may be common with other members of this family, but the peculiarity was very new to me; in place of shedding the whole tooth, they only shed a part,—the upper crust, if I may so term it, slips off in the form of a

thimble, exposing the under tooth, accurately formed and perfectly mature, (in fact, *semper paratus*), for whatever either living or dead substance may come in his way.

As the age of animals is frequently arrived at by examination of the teeth, it would be difficult to determine the age of the Alligator by his; and from this circumstance, I have set him down just as *old as any other Alligator*, which corroborates the reply of an *honest* man once selling a horse, who, on being asked the age of it, cautiously replied, that it was just *as old as any other man's horse*, being ignorant whether youth or old age was the greatest recommendation.

Sometime after this event, I got information of a very large one which had repeatedly been seen in a prairie bordering on lake Wadchoctaw. I immediately set out in search of him, but after scrambling for the greater part of a hot day, through mud and cane-brake, I could not fall in with him; and as the sun was nearly down, I passed the evening in a marshy clump of Cedars and Cypressess, listening to the Mocking Bird, which was occasionally intruded upon by the *snore* of an Alligator, sufficient to have rivalled Lablache himself in some of his *deepest intonations*.

The last few evenings I spent in the Swamps, I amused myself in paddling close by the edge of the lagoons, and setting fire to the cane and long grasses, which were previously reduced nearly to tinder by the heat of the sun, and the terrific grandeur of these burning savannahs is beyond description; this is a common practice with the men, not so much for effect as utility, for the seeds which many of these grasses bear are the finest feeding for Ducks, and which these birds never can get to unless thrown down in this manner, the seed immediately falling into the marsh whenever the stalks give way. There is abundance of feeding in addition to this, particularly wild celery, which is in profusion, and well known to be the principal food of these birds. I must now sit down, but not before expressing my gratitude for the kindness which I experienced from the men while roosting amongst them at lake Cataawatchaa, one of whom, named *Booteau*, offered me the greatest proportion of his day's shooting the night I was leaving, probably to supply me with funds for a game at *euchar* and poker, two well known games in the West.

Booteau had figured very conspicuously (as he told me himself) as a Matador in the bull-ring at Algiers, in the vicinity of New Orleans; and subsequently, kept a gymnasium somewhere in the West, where pistol shooting and the use of the bowie-knife were taught gratis. I took my leave of the learned Professor and his colleagues reluctantly, and continued my journey to Cuba, the Blue Mountains in Jamaica, Porto Rico, and also to the magnificent and picturesque island of Haiti, justly named the queen of the Antilles, in constant pursuit of the fowls of the air; and in the last-named island, I expected to have procured a specimen of *Le Musicien*, a bird called

the Organiste of Haiti, about which [so much superstition and mystery prevail; but fever, arising from misfortune, completely defeated me in this attempt.

Mill of Boundie, near Banff, Dec. 29th 1853.

ON THE EXPANSION AND CONTRACTION OF BRITISH LAND SHELLS.

BY H. R. BOLTON, ESQ.

My attention, for some time past, has been called to the occasional expansion and contraction of our common hedgerow Snails during the period of life, more particularly those of the larger species, *Helix pomatia*, *H. aspersa*, *H. arbustorum*, &c., some of which I obtained and kept in my own garden, and find that, after the animal has arrived at maturity, the size of the shell frequently varies, according to the dryness or dampness of the atmosphere, and plenty or scarcity of food. Of this I am fully convinced, from constant observation and experiments.

After two or three days of successive warm and congenial showers, placing plenty of food within their reach, such as lettuce, I have measured a full grown *H. pomatia*, and found the circumference round the largest whorl measure four inches and nine tenths. I have then placed the same animal for twenty days in a dry situation, exposed for an hour or two each day in the sun, depriving it the whole period from food. After this, on again measuring it, I have found its decrease in size to have been four and a half tenths of an inch, measuring now but four inches and four and a half tenths. On replacing it again in a moist situation, with food, after a few wet days it has obtained its former dimensions.

I have also tried the same experiment on *H. aspersa*, the specimen I committed to that ordeal when in high condition. I found the circumference to have been 3·8, the decrease being three tenths of an inch. This also, on being returned into the damp and good keep, soon arrived at its primitive size. In experimenting on many other species, I found a similar decrease in proportion to their size.

I have generally observed, that all our Land Shells decrease in size after death, and the animal is taken out, to what they were while in a living and vigorous state.

Not having seen or read any observations in the works of our naturalists on this expansion and contraction of Shells, induced me to trouble you with these few remarks, as, perhaps, some of your readers will follow the matter up further, by investigating how such alteration is effected on what appears to be a hard and fixed substance.

3, Valletot Place, Stoke Devonport, April 2nd, 1855.



Miscellaneous Notices.

Occurrence of the Little Auk, (Mergulus alle,) at Barnsley.—On the 11th of November, a curious bird was brought for me to name. It proved to be the Little Auk, provincially the Rotche, or Sea Dove. It had been picked up by a girl, crouching close to the steps of a house at Kingston Place, Barnsley; no doubt exhausted in its long flight from the sea. When placed in a tub of water, it swam and dived about with great rapidity. Portions of fish were given to it, with a view of preserving it alive; it being far more desirable to study birds in a living state, than as dead specimens; being far away from its native element, however, it pined away, and died on the 14th inst. The bird-stuffer who is preparing it for my collection, proved it to be a male bird by dissection, and was struck with the peculiar internal arrangements, differing from any that had come under his hands, which he pointed out. His ingenious inferences corresponded with the descriptions in Mc' Gillivray, Yarrell, and other writers. From these, as from Montagu, Jardine, and Knight's Pictorial Museum, in some of which are accurate plates of the bird, I learnt, that it was not only a stranger to these parts, but that its occurrence in England is so rare as to have the dates chronicled. It is not thought to breed in this kingdom, except in the northern isles of Scotland. Dr. Edmonston considers it a rare visitant to Shetland, but it is more plentiful in the Orkney Isles. Its native home is within the arctic circle, whence it is sometimes driven southward by storms. It abounds on the frozen coasts of Greenland and Spitzbergen, even supplying ships' companies with a variation of food. Captain Beechy in his Voyage to the North Pole, while describing the scenery of Magdalen Bay, on the west of Spitzbergen, says—"At the head of the bay there is a high pyramidal mountain of granite, termed Rotge Hill, from the myriads of birds (the Rotche) that frequent its base, and which appear to prefer its environs to any part of the harbour." To those who do not know the bird, it may be described as something between the Razor-Bills and Guillemots, but smaller, being not nine inches long.—T. LISTER.

Achillea tomentosa, &c.—In Babington's Manual of British Botany, it is stated, on the authority of the Rev. — Little, that this plant is found on the estate of Auchlunkart, Banffshire; but Sir W. J. Hooker says, that it had been washed down from a portion of an old garden, about one hundred yards distant. It is, in fact, a very doubtful native, and, like many others, should be expunged from the list of truly indigenous plants. Babington says that *Carex Banninghauseniana* is found in Banffshire, N. B. I should like to know if any of your correspondents have gathered it in that county. *Carex elongata*—a rare plant—I have seen at Auchmedden, a few miles east of the town of Banff.—J. ROSE, M.D., Haslar, Oct. 20th, 1854.

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THE
NATURALIST;

A POPULAR MONTHLY MAGAZINE,

ILLUSTRATIVE OF THE

ANIMAL, VEGETABLE, AND MINERAL
KINGDOMS.

WITH NUMEROUS ENGRAVINGS.

CONDUCTED BY

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It is requested that all Communications be addressed in future to B. R. MORRIS, M. D., 38, Fawcett-street, Bishopwearmouth, Durham.

NOTICES TO CORRESPONDENTS.

Communications have been received up to May 15th, from R. ANDREWS, Esq.—G. R. TWINN, Esq.—W. KIDD, Esq.—S. STONE, Esq.—T. SOUTHWELL, Esq.

Contributions have been received up to May 15th, from S. STONE, Esq.—H. SMURTHWAITE, Esq.—T. C.—W. C. H.—J. H. DAVIES, Esq.—J. S. WALKER, Esq.—J. D.—O. A. MOORE, Esq. To May 19th, from M. J. O. HARPER—J. CANAFY, Esq.—C. G. LENNY, Esq.

ERRATA: Page 56, line 3—for “from the blue bed of flowers,” read “from the blue bed” of flowers.

- “ 57, “ 4 from bottom—for lieges, read liege subjects.
- “ 98, “ 18—for brooding, read breeding.
- “ 99, “ 2—for Criophorum, read Eriophorum.
- “ *ib.*, “ 23—for The Short-eared Owl and Montagu's Harriers, read The Short-eared Owl, and the Hen, and Montagu's Harriers.
- “ 101, “ 10 from bottom—for peculiar, read peculiarly.
- “ 102, “ 21—for his, read this.
- “ 103, “ 1—for blackthorn, read buckthorn.
- “ *ib.*, “ 19—for lovely, read lively.
- “ 105, “ 9 from bottom—for blind, read blinded.
- “ 106, “ 1—for it, read its cry.
- “ *ib.*, “ 32—for tribe, read tribes.
- “ 107, “ 6—for it wont, read it was wont.
- “ *ib.*, “ 5 from bottom—for who, read which.
- “ 108, “ 8—for a Linnet, read the Linnet.
- “ *ib.*, “ 16—for Ranks and stations, read Rank and station.
- “ 109, “ 1—for Nettle, Tortoise-shell, read Small Tortoise-shell.

RECEIVED: We have just received a miniature volume, entitled “THE POWER OF EXAMPLE,” price 3d.; written by WILLIAM KIDD. Its object is self-evident; and there are so many home truths in it, that we should perhaps all do well to “take a leaf out of Mr. Kidd's book.” When Truth is set before us in plain array, it necessarily induces thoughtfulness; and *this* leads to practical reform. The power of Example for *good* or *evil*, is indeed fearfully great.

The Editor begs to announce to his Correspondents, that he has arranged with his Printer, so that the Author of any Paper can have copies of his Article sent him by post at the following rates:—

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Communications, Drawings, Advertisements, etc., to be addressed to B. R. MORRIS, Esq., M.D., 38, Fawcett-street, Bishopwearmouth, Durham;—Books for Review, and Parcels, to the care of Messrs. GROOMBRIDGE, 5, Paternoster-Row, London.

TWO DAYS IN WENSLEYDALE.

BY JOHN G. BAKER, ESQ.



THE surface of the whole of the western third part of the northern half of Yorkshire, embracing an area of about six hundred square miles, is filled up by a series of moorlands, composed of limestone and gritstone strata deposited during the early part of the carboniferous epoch; culminating and continuous where, along the borders of Westmoreland and Cumberland, Micklefell attains an elevation of 2600 feet above the level of the sea, and several less considerable peaks exceed 2000 feet; and sloping gradually in an eastern direction. The district is intersected by innumerable dales and ravines, converging towards the three nearly parallel principal dales of the Tees, Swale, and Ure; which, narrow at first, hemmed in by bleak moorlands and margined by ranges of precipitous cliffs, gradually widen and expand, and assume a more highly populated and richly cultivated character, in proportion as the hills contract their dimensions, till at length they are lost in the broad and fertile valley which fills up the whole of the central portion of the county.

Of these three dales, Teesdale has long been celebrated amongst botanists as affording a favourable arena for their exertions; so that its numerous floral rarities and peculiarities are seldom doomed to bud and blossom unseen; Swaledale has been carefully explored by a diligent resident observer, to whose labours the "New Botanists' Guide," the "Cybele Britannica," the "Yorkshire Flora" and its "Supplement," and the "Salictum Britannicum," bear testimony; but, since the days of Curtis and Brunton, during the last fifty years, the botanical productions of Wensleydale have been comparatively unexamined and neglected.

Until the present season, I had not enjoyed any opportunity of visiting the district; and had therefore arranged with my relative, R. D. Carter, then resident at Darlington, to spend a day or two during the summer with some of our friends who reside at Carperby, a village situated about half-way up the dale. In accordance with our agreement, nine o'clock, on a morning early in last eighth month, (August,) found me at Leeming Lane station, the terminus of a branch of the late York, Newcastle, and Berwick railway; duly equipped with a pocket ordnance map of the district, Professor Phillips' "Railway Excursionists' Guide," and a vasculum of capacious dimensions. From the station to Bedale, a distance of about three miles, an omnibus runs. Bedale is a small market town, situated on Grimsicar beck, a branch of the Swale, just upon the western edge of the great central valley before mentioned. But perhaps, before commencing operations, it may be desirable to make a few general remarks, for the benefit of those who have not devoted their attention to the study of the rudimentary principles of phytogeography.

I have already endeavoured in another place (the "Supplement to the Yorkshire Flora") to investigate and explain the manner in which the different assemblages of species, called by geographical botanists "types of distribution," unite and combine together to form the vegetation which clothes the surface of our county. Out of a thousand more or less strictly native species of flowering plants and ferns which it produces, it is there shown, that whilst 57 per cent. are diffused generally throughout Britain, 31 per cent. are absent from the northern, and 9 per cent. from the southern portions of the island. Whatever part of the county be visited, it will be found, as a general rule, that it is species of the "universal" class which make up the main body of the vegetation; and that, allowing for situation, the differences between the aspect of the flora of different parts is caused by the absence or presence of the species which compose the remaining classes. The flora, therefore, of any portion of the central vale, may be characterized as composed mainly of "*universal*" species, with a large admixture of those ("*austral*" species) which run out in a northern direction. Since the days of Tournefort and Bembo it has been a familiar fact, that a district elevated above the sea corresponds in its flora to a level tract of the country more or less further northward, in proportion to its elevation. So that, (to state the facts of the case in the form of generalization,) a botanist who travels from the bottom towards the head of a valley like Wensleydale, gradually leaves behind the "*austral*" species, one after another, as he advances; and every now and then, meets with a fresh northern, or "*boreal*" species, intermingled amongst the general body of the vegetation; which, as stated before, always consists of those species which are distributed throughout the whole extent of the island. And if he be a resident in towns and cities, who only finds opportunity for an occasional or periodical ramble amongst the mountains, he soon learns to regard these boreal species (which, if confidence may be placed in the theory of the late lamented Professor Edward Forbes, are fragmentary relics of the flora of the period which preceded the great glacial inundation) with feelings of peculiar interest. But, of course, it is only a faint glimpse of all this that a casual visitor catches.

To return to Bedale, however. To occupy the time till my companion should arrive, I walked out along the high road in a southern direction, for a mile or two, and gathered *Polygonum Fagopyrum*, which had become naturalised in considerable plenty upon rubbish heaps by the roadside, and *Geranium columbinum*; and noticed a single bush of *Salix Forbyana*, a species of considerable rarity. The Brambles of the hedgerows there appear to be *discolor*, *corylifolius*, *fusco-ater*, *nitidus*, and *cæsius*.

It was not long before my companion made his appearance, and then for the westward in good earnest. Carperby is rather more than twenty miles from Bedale by the shortest way; but we preferred the plan of proceeding at once to the Ure, the nearest point of which is about three miles from Bedale,

and then taking the road along its southern bank. Soon after leaving Bedale, we reach the narrow terrace of magnesian limestone, which intervenes between the red sandstone and carboniferous strata. The transition is marked by a conspicuous alteration in the general aspect of the vegetation, caused by the appearance, more or less prominently, of such species as *Origanum vulgare* and *Campanula glomerata*; but we could not spare time just then, to endeavour to trace out the change into its primary particulars. Before long, we found ourselves at the village of Thornton Watlas; and soon afterwards, the hills which encompass the valley on each side rise upon the horizon, and "Penhill's purple top" (to quote the expression supplied by our guide book) begins to assume a prominent position in the view. Crossing down to the bridge at Jerveaux, we noticed *Galium tricornne*, *Fedia dentata*, and *Linum usitatissimum*, growing in a cornfield, amongst abundance of *Euphorbia exigua* and the small-flowered form of *Galeopsis Ladanum*. Upon hedgebanks in the same vicinity, as stated in the "Yorkshire Flora" of Baines, occurs *Pimpinella magna*. Upon the south bank of the river, about a mile above the bridge, are situated the picturesque ruins of a Cistercian priory, founded in 1155, the last abbot of which took a leading part in the ill-fated "Pilgrimage of Grace." Its walls are bound together by ivy, and adorned with Snapdragon, Pellitory, and Wall-flower, interspersed with *Hieracium vulgatum* and the tall wand-like stems of *Lactuca virosa*.

As we advance thoroughly into the dale, hedgerows and septal flowering plants yield place, in a great measure, to gray walls of loosely piled stones, clothed with a vestiture of mosses and lichens, thinner or denser according to circumstances. The species which, from their prominence or pre-dominance, appeared, within the scope of our observation, to stamp the general *facies* of the museology of the district, are *Anomodon viticulosum*, *Tortula ruralis*, *Grimmia apocarpa*, *Weissia curvirostra*, and *Didymodon rigidulus*. Here, as in several other places, we noticed two intimately allied *Orthotricha*—*anomalum* and *cupulatum*; and also a considerable quantity of *Didymodon flexicaulis*, of course in a barren state.

At East Witton, the moorlands rise on each side of the dale to a considerable elevation; and soon after the Ure is joined by the Cover, a stream which rises near Little Whernside, not far from the head of Nidderdale. Leyburn, a small town on the north side of the river, which from its elevated position commands fine views up Wensleydale and Coverdale, we did not visit. At Middleham the most renowned attractions are, the ruined walls of a castle—large and massive, but singularly devoid of architectural embellishment—formerly the property of the renowned "last of the barons," Warwick the king-maker; and afterwards of Richard of Gloucester, the third and last monarch of that name who occupied the throne of England. Here, as before at Jerveaux abbey, and afterwards at Bolton castle, the

"Pellitory of the wall" was the species called *Parietaria diffusa*, by Koch and various other authors. On other walls in the neighbourhood occur *Enacalypta streptocarpa*, and a curious *Bryum*, (probably a form of *pallescens*.) growing with *Tortula tortuosa* and *Asplenium Ruta-muraria*.

At the suspension-bridge which spans the Ure near this place. the high-road crosses to the north side of the river; but, following the recommendation of Professor Phillips, we proceeded along a green path which leads through the fields on its southern bank. About this part, as well as higher up, various forms of *Salix purpurea* occur plentifully; and on stones in the bed of the river, *Cinclidotus fontinaloides*, growing amongst *Fontinalis antipyretica*, and the fluitant form (*G. rivularis*, Brid.) of *Grimmia apocarpa*. Amongst some of the hedgebanks by the footpath, we noticed *Hieracium tridentatum*; but searched in vain for any traces of *Salix acutifolia*, a species detected here, for the first time in Britain, in 1831, (but not published till the present year,) by Mr. Ward, of Richmond, which has since been also discovered in Cleveland. On the banks of the river at Wensley, the multiform *Salix phylicifolia*, the most widely diffused of the "boreal" willows in this country, begins to make its appearance, intermingled amongst the *purpurea*; which latter principally shows itself as the form called *S. Lambertiana* by Smith: also *Rumex aquaticus*, which my companion was particularly interested in finding, as it was the first time he had chanced to fall in with it. Here, also, *Scabiosa columbaria* finds scope for luxuriant development; and the profuse golden flowers of *Hypericum dubium* attracted our special attention. At this place we crossed to the north side of the stream, and followed the road to Redmire, through Bolton park. Amongt the woods in the neighbourhood we meet *Geranium sylvaticum*, one of the boreal species to which allusion was made in the earlier part of my paper; and on the rocks, *Arabis hirsuta* occurs. The church at Redmire belongs to the same fraternity as that commemorated by Wordsworth—

"Wythburn's modest house of prayer,
As lowly as humblest dwelling."

On crossing to the side, turning away from the road, with the laudable intention of enlarging our knowledge of archæology by the inspection of the "Norman doorway" promised by the guide book, we perceived, through the vista of the porch, that it was embellished by a written paper, duly signed and sealed by the wardens *pro tempore*, threatening to invoke the utmost rigour of the law upon the head of any misguided individual, who might climb upon the top of the church for the purpose of amateur bell-ringing! However, we neither of us needed to be thus deterred from the exploit deprecated; and, besides, it was getting late enough in the day to induce us to press forward. By the roadside beyond Redmire, *Rumex aquaticus* again shews itself; and, not far from the same place, a small colony of *Calendula*

arvensis seemed to have temporarily established itself. Not long afterwards, the manor house at Carperby appears in sight, and we were soon comfortably established within its walls.

About a mile below Carperby are situated the celebrated rapids of Aysgarth, which present one of the very few instances in Britain, in which a great river makes any considerable sudden descent; and in that direction, early next morning, we pursued our way. Their aspect, like that of almost all other waterfalls, depends principally upon the quantity of water in the river; which, in the Ure, a stream which receives the drainage of a wide extent of mountainous country, varies exceedingly between different times. At the time of our visit, very little rain had fallen for several days, so that the Force was not nearly so striking in aspect as it is under the conditions represented in the lithograph in the "Rivers, Mountains, and Sea-coast of Yorkshire;" and a considerable part of the margins of the grey limestone ledges which form the rapids were exposed to view, bearded with *Hypnum ruscifolium* and *Cinclidotus fontinaloides*, interspersed here and there with *Hypnum palustre* and *rivulare*. The steep banks of the stream are clothed with close thickets of small trees and underwood, in a manner considerably resembling the High Force of Tees; but the Wensleydale fall is only elevated about two hundred yards above the level of the sea, (whilst that of Teesdale is upwards of a hundred yards higher,) and wants besides the special rarities (as *Potentilla fruticosa*, *Poa Parnellii*, and the *Hieracia*) which supply, at the latter, the principal botanical attractions. Here, however, may be found, growing amongst the thickets, *Hieracium tridentatum*, *Trollius Europæus*, *Geranium sylvaticum*, (recorded from this station in the original Botanists' Guide, of Turner and Dillwyn,) *Rubus villicaulis*, *Rhamnus catharticus*, *Serratula tinctoria*, *Aquilegia vulgaris*, (in a condition of genuine and indisputable aboriginality,) *Rosa tomentosa*, *Viola hirta*, *Triticum caninum*, and many other species less noteworthy. Intermingled amongst these, the oozy streamlets which trickle gently down from above, thickly impregnated with calcareous matter, supply localities for *Blysmus compressus* and *Scirpus pauciflorus*, *Sagina nodosa*, *Parnassia palustris*, and *Lycopodium selaginoides*; and a luxuriant growth of such mosses as *Hypnum commutatum*, and its variety *condensatum*, (*H. aduncum* of Hooker and Taylor in part,) *H. filicinum*, *Bartramia fontana*, *Bryum bimum*, and *Dicranum squarrosum*. This is the lowest station which has been ascertained in Britain for *Sesleria cœrulea*, a species which is lost in a southern direction, till it again makes its appearance on the chalk hills of Rouen. Amongst and upon the rocks, near where they suddenly descend, grow *Hieracium cœsium*, *Galium pusillum*, and *Hippocrepis comosa*—a plant known only in another locality in North Yorkshire. Here also we noticed a peculiarly graceful *Euphrasia*, and a Thyme with elongated stems and complicate leaves, which is doubtless *Thymus angustifolius* of Schreber. Upon the edge of the great fall grow *Bryum pallens*, and an interesting *Hypnum*,

the true *fluviatile* of Swartz; (distinct specifically from the plant given under that name by Bruch and Schimper, which is the *H. irriguum* of Wilson's forthcoming work;) and on the rocks within reach of the spray, *Collema multifidum* of Scopoli, (*C. marginale*, Huds.) and *Endocarpon lachneum*. On the miniature scars that margin the stream below, a curious form of *Origanum vulgare*, with pale flowers, green bracts, and prominently exerted stamens, occurs, amongst plenty of *Scabiosa columbaria*, and *Hypericum dubium*.

In the afternoon we visited some of our friends who reside at Thoresby, a mile or two eastward. In fields below Carperby grow *Allium vineale* and *oleraceum*; and on Ash trees by the side of the footpath, *Parmelia scortea* and *pallescens*. On the hill-side above Thoresby, Bolton castle, founded by the Scropes in the reign of Richard II., celebrated in history as one of the prison-houses of the unfortunate Mary of Scotland, occupies a commanding position. Though besieged and taken in 1645, by the Parliamentary army, it has suffered comparatively little deterioration, a portion being still inhabited, and ("*Sic transit gloria mundi!*") one of the principal rooms upon the story converted into a tinner's shop. With one of our friends as guide, we visited the castle, and examined it thoroughly throughout, ascending even to the very roof; whence we brought away, as memorials, specimens of *Poa subcærulea* and *Achillæa millefolium*. On the hill-side above the castle, *Hieracium strictum* had been supposed (*vide* "Supplement to the Yorkshire Flora") to occur. Having been favoured with explicit directions to the station, I mounted up to the place, but could find only *H. vulgatum*; and have since seen reason to believe that an accidental transposition has taken place, and that the locality for the *strictum* is in reality Grizedale, in Westmoreland; so I consoled myself with gathering *Sesleria cærulea*, and rejoined my companions at the village. In the evening we returned again to Carperby.

We had already compiled a list of between three and four hundred species of flowering plants and ferns, and should have much liked to have prosecuted our researches further; to have seen for ourselves the striking phenomenon of the occurrence of *Armeria maritima* (normally a littoral species, but occasionally growing also in alpine situations inland) in luxuriant profusion at Nappa, elevated only about seven or eight hundred feet above the level of the sea; to have trodden in the footsteps of the older explorers before mentioned, and verified the stations which they have placed on record for various boreal species; and to have endeavoured to trace out the ascending termini of southern species, amongst the romantic and picturesque scenery of Upper Wensleydale. I was, however, on the other hand, desirous of reaching home again next evening; so we parted from our kind and hospitable entertainers, and crossing the intervening moors by way of Hart-leap well, managed to arrive at Richmond, just—and only just—in time for the

departure of the last train. But, for my own part, I can only say that, if spared, I have not the slightest intention, that the short excursion, the scientific results of which I have endeavoured to sketch for the readers of *THE NATURALIST*, shall be my last "two days in Wensleydale."

Market Place, Thirsk, 11th of 12th Mo., 1854.

THE FISHES OF BANFFSHIRE.

BY MR. THOMAS EDWARD.

(Concluded from page 62.)

The Haddock. (*M. ceglefinus*.) Far more numerous, the Haddock, like the Cod, is extensively taken, and largely cured and forwarded south. Our Buckie Haddocks are well known for their excellence, and are far-famed for their superior qualities. Like the Cod, the stomach of this species is also a rich mine for the Naturalist, as the reader may already have anticipated from the foregoing list. The long-armed Brittle Star (*Ophiocoma brachiata*) is found in abundance, and occasionally the Daisy Star. (*O. bellis*.) The young of the Sand Star (*O. texturata*) in profusion, with sometimes a specimen of the Lesser Sand Star. (*O. albida*.) The Green Pea and other urchins are frequent, with many of the smaller and rarer species of the Crustaceans and Testaceans.

The Bib, or Whiting Pout. (*M. lusca*.) Frequent; but not often brought to the market, although they are most excellent eating. The fishermen generally cut them up and use them as bait.

The Power Cod. (*M. minuta*.) Not known as an inhabitant of the Frith until last autumn, or at least not publicly made known as such till then, when three were brought ashore here by some of our fishermen, as already mentioned in *THE NATURALIST*. One or two have been met with since. They are excellent eating. It is a great pity they are so small and so scarce.

The Whiting. (*Merlangus vulgaris*.) Often taken, but not so much admired generally as the Haddock.

The Pollack, or Sythe. (*M. pollachius*.) Frequent.

The Coal-fish. (*M. carbonarius*.) Like the last; and, when young, great numbers are occasionally taken in our harbours, in small meshed nets, and are sold from twenty to thirty for the penny. They are here termed 'Gerrocks.'

The Green Cod. (*M. virens*.) Though I have given this fish a place here, I am somewhat doubtful as to the propriety of so doing. A fish resembling the species in all except the position of the fins and form of the head, was brought me about two years ago, as a variety; but, unfortunately, it was too far gone to be of any use. The fisherman who brought it did not know it. It was taken off Sandend.

The Hake. (*Merlucius vulgaris*.) Found occasionally.

The Ling. (*Lota mota*.) Fished for with the Cod, and cured in the same manner. When salted and dried they are called 'Kealing.'

The Five-bearded Rockling. (*Motella quinquecirrata*.) Frequent among the pools left among the rocks by the tide.

The Four-bearded Rockling. (*M. cimbria*.) Rare. I have only met with it once.

The Torsk, or Tusk. (*Brosnius vulgaris*.) Taken with the Cod and Ling, and cured in the same fashion.

The Great Forked Beard. (*Phycis furcatus*.) This fish is of rare occurrence with us, and that only at long intervals. One was taken in our bay in 1819, and another off Gamrie-Head, in 1822.

The Plaice. (*Platessa vulgaris*.) Plentiful, and highly prized by many for its very delicate flesh and agreeable flavour.

The Flounder. (*P. flesus*.) Or as it is called here, the Common Fluke, and the Saltwater Fluke, (*P. limanda*.) are also pretty frequent. In the stomachs of these fish I occasionally find, among other matters, *Tellina fabula*, *T. tenuis*, *T. punicea*, (a most beautiful little shell,) *Natica Montagu*, *N. Alderi*, *Philine scabra*, *Cylichna truncata*, *C. cylindracea*, &c.

The Smooth Dab, (*P. microcephala*.) and the Pole Dab, (*P. pola*.) are not so often met with.

The Yellow, or Rough Dab, (*P. limandoides*.) and the Long Flounder, (*P. elongata*.) are of rare occurrence.

The Holibut, (*Hippoglossus vulgaris*.) and the Turbot, (*Rhombus maximus*.) are both met with, inhabiting deep water. They are seldom taken near the shore. The former is the most plentiful. The latter is known here as the Roan Fluke, and always commands a ready sale and a high price. The other is called the Turbot; and though it sells well, also, it is not so valuable as the true Turbot, nor yet so eagerly sought after by the higher classes. Both species are chiefly taken at a place called 'The Bank,' or out sea-fishing.

The Brill, or Pearl Turbot (*R. vulgaris*.) This species is occasionally taken along with the two preceding, but must rank as rather rare with us.

Muller's Topknot, (*R. hirtus*.) occurs at intervals along our whole line of coast.

The Sole, (*Solea vulgaris*.) is not so common with us, as its name would seem to indicate.

The Lemon Sole. (*S. pegusa*.) Rare.

The Solenette, (*Monochirus linguatulus*.) is of more frequent occurrence. I have found them in the stomach of the Cod and Haddock.

The Cornish Sucker. (*Lepidogaster Cornubiensis*.) I remember finding a small fish, on one occasion, where our fishermen clean their lines, and which resembled the above, in almost every particular. It is the only specimen that has come under my notice.

The Two-spotted Sucker. (*L. bimaculatus*.) Brought on shore, now and then, amongst the refuse entangled in the fishermen's lines, and occasionally in old shells, such as *Fusus antiquus*, *Buccinum undatum*, and *Cyprina Islandica*, &c.

The Lump Sucker. (*Cyclopterus lumpus*.) Frequent. Known here by the name of 'Paddle Cock.' Not used as an article of food.

The Unctuous Sucker. (*Liparis vulgaris*.) Of partial occurrence.

Montagu's Sucker. (*L. Montagui*.) I have only once met with this beautiful little fish here, and that but lately. It was brought on shore in an old shell. I should think it rare in the Frith.

The Sharp-nosed Eel, (*Anguilla acutirostris*), and the Broad-nosed Eel, (*A. latirostris*), are both found. The former is the most numerous, and brings the highest price.

The Conger, or Great Eel. (*Conger vulgaris*.) This large species is often met with, but is not used as food.

The Sand-Eel, (*Ammodytes Tobianus*), and the Sand-Lance, (*A. lancea*), the latter the most numerous. Both these are used by our fishermen as bait.

The Great Pipe-fish, (*Syngnathus acus*), and the Lesser Pipe-fish, (*S. Typhle*), are both met with, and are cut up by the fishermen for the same purpose. They are accounted by them to be superior to any other bait. A splendid specimen of the larger species was found cast on shore between Gardenstown and Crovie, about ten years ago, and was sent me by my friend Mr. Gordon, of the former place.

The Worm Pipe-fish (*S. lumbriciformis*) is met with; and I should suppose is not so rare as one might expect, if there were more observers along the coast, or our fishermen were more attentive than they generally are. This remark applies to many other species besides the above.

The *Hippocampus brevirostris*. This rare and peculiar horse-headed looking creature has been met with here. Two were found cast on shore at a place called the Sands of Boyndie, near the town of Banff, about twenty-seven years ago, after a very severe sea storm.

The Short Sun-fish, (*Orthogoriscus mola*), and the Oblong Sun-fish, (*O. oblongus*), have been occasionally met with. Several have been brought on shore by the fishermen of Gardenstown, Crovie, and other places.

The Sturgeon. (*Acipenser sturio*.) Rare. One was taken in a salmon net, in 1844.

The Small spotted Dog-fish. (*Scyllium canicula*.) Occasionally.

The Tope. (*Galeus vulgaris*.) I am only aware of two instances in which this fish has been found within our limits. The one, at or near Buckie, in 1829; and the other in 1846, in the bay of Banff. Neither do our fishermen appear to know it very well; hence, I should conclude the species to be rather scarce.

The Picked Dog-fish. (*Acanthias vulgaris*.) Plentiful; often too much so.

The Greenland Shark. (*Scymnus borealis*.) In May 1849, a large specimen of the above Shark was captured by some fishermen belonging to Pennan, off Troup-head. When brought on shore, it measured thirteen feet nine inches in length, and eleven feet in circumference where thickest.

The Spinous Shark. (*Echinorhinus spinosus*.) Being down towards Gamrieh-head, on the first of January 1851, my attention was arrested by the screaming of a number of sea gulls beneath me; and on looking over to the foot of the cliffs, I saw them quarrelling and fighting over a large object floating in the water, close to the rocks. I stood a few moments, contemplating the scene. But having been of a curious turn all my life, I could not bear the suspense long, and accordingly descended to see what they were battling so fiercely about, hoping also to come in for a share, if it were any thing very fine. After a rough and rugged descent, which occupied the greater part of the day, and in accomplishing which I was terribly cut up, I found the object of their solicitude and my curiosity to be the remains of a large Shark of the above species. On mentioning the circumstance to a friend, a few days afterwards, he expressed his belief that it was the first instance of the animal's appearance in the Scottish seas. Be this as it may, it is the only instance with which I have met, and our fishermen do not know it by the description I have given them.

The Angel-fish, (*Squatina vulgaris*.) or as it is here called, (like the Angler,) the Sea-devil, is sometimes procured. A large specimen was cast into our harbour, during the winter of 1851.

The Cramp-fish, or Electric Ray. (*Torpedo vulgaris*.) A specimen of this fish is said to have been taken about six miles off Loggie-head, near Cullen, in 1817. Others, also, are hinted at, as having been caught.

The Sharp-nosed Skate. (*Raia oxyrhynchus*.) Large individuals of this species are sometimes taken, with the more frequent of our Rays. One measuring upwards of seven feet in length, and over five in breadth, was captured by our fishermen about twenty years ago.

The Flapper Skate. (*R. intermedia*.) I have some doubts as to this Ray having occurred here. I may state, however, that a small Skate, agreeing in many essential points with the flapper, was taken, in a bag net set for salmon, about nineteen years ago, and said to be a young one of the above species, and as such I have included it here.

The Blue or Gray Skate, (*R. batis*.) and the Thornback. (*R. clavata*.) Taken, occasionally, in great numbers; the former being the most numerous and the most prized.

The Starry Ray. (*R. radiata*.) This small species is picked up now and then.

The Lamprey, or as it is called here, the Lamper Eel, (*Petromyzon marinus*.) is often met with.

The River Lamprey. (*P. fluviatilis*.) Considered rare. A very fine specimen was taken in the Doveran, near Kirkside, in 1852, but was destroyed by a dog belonging to the individual who made the capture.

Planer's Lamprey, or Lampern (*P. Planeri*) has also occurred. These fish are generally termed 'Nine-ee'd Eels,' and are by no means held in very high estimation by the boys.

The Myxine, or Glutinous Hag. (*Gastrobranchus cæcus*.) This very curious and singular animal, whether you call it a fish or a worm, is of frequent occurrence; and with it I now conclude my long and, it may be, uninteresting list of the Fishes of Banffshire.

This list, however must not be considered as anything like complete. Time and attentive observation, will doubtless greatly enlarge it. Could our fishermen be induced to pay more attention to these matters, we should soon have a record of many other species which have as yet, perhaps, never been publicly noticed.

THE REDBREAST. (*ERYTHACA RUBECULA*.)

BY J. MC. INTOSH, ESQ.

IN confirmation of the many interesting accounts of the manners and habits of Mr. Bob, given in the pages of THE NATURALIST and other works, by our old friend, Mr. Kidd, of Hammersmith, I beg of you and your readers to accept of the following interesting note, gleaned from "The Chronicles of the Season." The writer, after alluding to the severity of the weather, says, "an adventurous robin, however, resolving to escape, if possible, the miseries of cold and hunger, established himself, during the day, beneath the shelter of our roof. At first, with his peculiarly rapid but interrupted hop, he ventured into the kitchens, where the warmth and the abundance of food attracted him. Here the bustle and the hasty movements to fro, somewhat daunted his resolution, so that he could only contrive to secure a few crumbs before he made his retreat. A second attempt, made at a more auspicious moment, was so well received by the inmates, and so encouraging to the bird, that he now fearlessly ranged every part of the room in search of food, and, perched on a holly branch which adorned the wall, he sang a few little notes of gratitude before his departure. From this time, the Robin was a constant guest. Early in the morning, as soon as the door was opened, he left his roosting place, in a neighbouring out-house, to enjoy the friendly shelter of his new home. He became particularly attached to a goodly row of hams, &c., as they hung in their paper cases from the ceiling, and he took occasion to steal bits of suet from the cook, whenever he found her chopping any for family use. His visits, which were at first confined to the kitchen,

now extended to other parts of the house. If the door or window of the dining room was left open for a short time, we were sure to see our little friend performing the duty of gathering up the crumbs beneath our table, and then taking his favourite station on the top of an argand lamp, which stood on the sideboard. Here he would, in general, content himself with watching the proceedings of the family; and we were occasionally favoured with a song, the notes of which were so sweet and clear, and yet subdued, that, for the time, we were wont to praise his name above that of all the songsters of the spring. It was now no unusual thing to find our robin in the sleeping apartments, or in those devoted to study; and when it was wished to exclude him from either of these rooms, and the windows were set open for that purpose, we were sometimes highly amused to find, that no sooner had we driven him out in that direction, than, with his rapid flight, he immediately entered the house again through the kitchen, and was winging his way up stairs to the same apartment he had just been compelled to quit.

For a time, the excessive freedom of our guest was borne without complaint, and his visits afforded much pleasure and diversion to the younger branches of the family; but, at length, when every room in the house was subject to his intrusions—when he made the nursery his sleeping apartment, joined the family at breakfast, alighting on the table, and picking holes in the butter,—when he not only demanded our hospitality on his own account, but brought one of his acquaintances to share in it, and when the tarnished state of the furniture reminded us, that however interesting it may be to have tame birds flying about our apartments, it is a practice wholly irreconcilable with the maxims of neatness,—we were obliged, at last, to concur in the decision, that our presuming friend must be banished the house. But this was a thing more easily talked of than done. The doors and windows could not always be kept shut, nor could we be so constantly on the watch to exclude the bird, as he was on the watch to come in. This being the case, an expedient was resorted to. The robin was caught, put into a basket, and carried to a village about a mile distant. Having set him at liberty, the messenger returned homewards; but long before he reached our residence, the robin was at his former post, and taking advantage of the unguarded state of the house—had triumphantly effected an entrance. That it was the same bird, we could not for a moment doubt, for we had, by long companionship, become so well acquainted with his form and habits, that we were able to point him out as “our robin” when associated with other birds upon the house. Another week was now allowed to pass by, without any attempt to rid ourselves of an annoyance which seemed without remedy. But on the occasion of a visit of the family to a country town, about seven miles off, it occurred to the mistress of the house that the robin might as well go too—that he might like the town better than the country. Again we succeeded

in catching him, and consigning him to his wicker prison. He was placed in the carriage with the children, who departed well pleased that they had charge of their little favourite. Arrived at the vicinity of the town, they opened the basket, and bade adieu to the robin, half hoping, however, that they should find him at home when they returned. In this they were deceived, for we never saw our pretty intruder again. Other birds of his kind occasionally sought, and obtained our hospitality, but none were found so fearless and so troublesome as he; and none, as he did, ventured to follow the members of the family into every part of the house, and to make themselves quite 'at home.'

January 25th, 1855.

A LIST OF LAND AND FRESH-WATER MOLLUSCA, FOUND IN THE VICINITY OF THIRSK.

BY MR. JOHN H. DAVIES.

I HAVE been much gratified at perceiving the increased degree of attention which the geographical distribution of our native mollusca has lately received, and have been greatly interested in perusing the valuable papers upon the subject, which have, from time to time, been contributed to the pages of *THE NATURALIST*.

I am sending, herewith, a list of the species which have been ascertained to occur in this neighbourhood, and will preface it by endeavouring to furnish, in as few words as possible, a summary of the leading physical characters of the district.

The north riding of Yorkshire is composed of two groups of moorlands; one in the west, the other in the east of the northern portion of the broad valley, which, running north and south between them, fills up the whole of the central surface of the county. Thirsk is situated about midway between York and Darlington, five miles from the eastern edge of the valley. Consequently, a ten mile circuit includes in the first place;—in the west, a flat low, level, and richly cultivated district, composed of red sandstone deposits, overlaid with tertiary diluvium, which, in a natural state, has been closely interspersed with bogs and pools of standing water. Secondly;—in the centre, a liassic band, about five miles in breadth, considerably undulated, and thickly covered with wood; and thirdly, in the east, a tract of elevated country, belonging to the oolitic moorlands, rising abruptly out of the valley, the margin of which is diversified in several places by precipitous cliffs and scattered *debris*. But of the district indicated, only comparatively a small portion has been explored conchologically, in a complete and efficient manner.

I have to acknowledge the kindness of various friends, in communicating notices of stations, whose names will be found throughout the list.

Neritina fluviatilis, Lam. Adhering to *Utricularia vulgaris*. In slow streams at Newsham Carr.—*Wm. Foggitt*.

Bithinia tentaculata, Gray. Common in ditches and stagnant ponds.

Valvata piscinalis, Lam. Not unfrequent in ditches at Newsham Carr. Amongst *Pontinalis antipyretica*, in the Codbeck, Thirsk.—*J. J. Binns*.

Arion ater, Gray. Abundant.

Arion hortensis, Fer. Moist hedge bank, Grizzlefield, and in the Holmes, Thirsk.

Limax maximus, Linn. In cellars, and under stones; moist bank, Feliskirk.

Limax flavus, Linn. Occasionally found in cellars.

Limax agrestis, Linn. Very abundant.

Limax brunneus, Drap? I found a few specimens in a shady situation near Thirsk, which I could refer to no other than this species. They differed materially from *L. agrestis*, especially in their darker colour, and comparatively longer necks. I have repeatedly searched the locality since, but have not been successful in procuring even a single specimen again, and have therefore thought it best to attach to the name a note of interrogation.

Limax arboreus, Bouch. Plentiful on the bark of an ash tree on the top of the moor above Hawnby, at an elevation of about 900 feet!—*Jno. G. Baker*; and in a similar situation, near Feliskirk!—*G. R. Baker*.

Vitrina pellucida, Flem. Not uncommon amongst moss, decayed leaves, &c.

Helix aspersa, Müll. Very common.

Helix hortensis, List. Very common.

Helix hybrida, Pior. Not unfrequent.

Helix nemoralis, Linn. Exceedingly common.

Helix arbustorum, Linn. Amongst nettles in several places. Under Boltby Scar, at an elevation of 700 feet.

Helix Lapicida, Linn. On rocks along the western edge of the oolitic moorlands, Boltby Scar, Whitsuncliffe, and Rolston Scar, occasionally plentiful.

Helix pulchella, Müll. Frequently amongst moss, and at the roots of grass, &c.

Helix Cantiana, Mont. By the roadside between Thirsk and Thorpfield, near Newsham; Rievaulx abbey, and other localities.

Helix fulva, Müll. A few specimens at Rainton heights, at an elevation of 900 feet!—*R. W. K. Long*. Moist hedge bank, Grizzlefield, near Thirsk.

Helix aculeata, Müll. Hedge bank near Boltby; and in company with *H. fulva*, at Rainton heights!—*R. W. K. Long*.

Helix granulata, Ald. Amongst nettles at Rievaulx abbey, and moist hedge bank, Grizzlefield.

Helix hispida, Müll. Numerous. In addition to the normal form of the

species, varieties also occur which may probably be the *H. concinna* and *H. depilata* of authors.

Helix rufescens, Penn. Only two specimens have been procured; one near Hawnbly!—*J. Foggitt*; and another near Thorpfield!—*George R. Baker*.

Helix virgata, Mont. Wood-end, near Thirsk.—*G. R. Baker*. Hedge bank between Thirsk and the railway station.

Helix caperata, Mont. Dry bank between Hawnbly and Rievaulx.

Helix ericetorum, Mül. Hedge bank between Thirsk and the railway station.

Zonites rotundatus, Gray. Not unfrequent. In a wood below Whitsuncliffe. at an elevation of upwards of 900 feet.

Zonites umbilicatus, Gray. Amongst *Encalypta streptocarpa*, house roof at Bolthby!—*R. W. K. Long*.

Zonites alliarius, Gray. Not uncommon amongst moss, and under stones, &c. *R. W. K. Long* informs me that he finds it in gardens at the roots of carnations, in great abundance.

Zonites cellarius, Gray. Not unfrequent.

Zonites purus, Gray. Common amongst moss, &c.

Zonites nitidulus, Gray. In similar situations.

Zonites lucidus, Gray. In similar situations.

Zonites crystallinus, Gray. In similar situations.

Succinea putris, Flem. Frequent in moist situations, on the banks of streams, and occasionally in the water adhering to aquatic plants. I have noticed a *Succinea* on nettles, (roadside between Thirsk and Sutton,) which I imagine may be the *S. Pfeifferi* of *Rossmäslar*.

Bulimus obscurus, Drap. On decayed hawthorn roots; bank between Thirsk and the railway station; bank between Hawnbly and Rievaulx.

Zua lubrica, Leach. Very common amongst moss, &c. I have found this species at an elevation of about 900 feet.

Azeca tridens, Leach. Plentiful at the roots of trees at Rainton heights. (Elevation 900 feet.)

Pupa umbilicata, Drap. Not uncommon under stones in the neighbourhood of Rievaulx, Bolthby Glen, Flazendale, and other localities.

Pupa marginata, Drap. Bank, between Hornby and Rievaulx, in company with *Helix caperata*.

Vertigo edentula, Gray. *R. W. K. Long* found a single specimen at Rainton heights.

Clausilia bidens, Drap. At the roots of trees near Feliskirk!—*G. R. Baker*.

Clausilia nigricans, Jeff. Frequently in similar situations to the preceding species. In a wood below Whitsuncliffe, at an elevation of nearly 1000 feet.

Carychium minimum, Leach. Common at the roots of grass, &c.

Limneus auricularius, Drap. One specimen from Sowerby ings, near Thirsk.

Limneus pereger, *Drap.* Abundant in ditches and stagnant pools. The varieties, *acutus* and *lacustris*, sometimes occur.

Limneus stagnalis, *Drap.* Brick-ponds at Wood-end, near Thirsk.—*J. G. Baker.* Stagnant pond near Sowerby.

Limneus palustris, *Drap.* Stagnant pond near Sowerby.—*J. G. Baker.* Brick-ponds between Thirsk and Topcliffe!—*J. Foggitt.*

Limneus truncatulus, *Jeff.* Not unfrequent.

Limneus glaber, *Gray.* Amongst *Lemna* in a pond half-way between Whitsuncliffe and Gormire. Pools on Pilmoor.—*J. G. Baker.*

Ancylus fluviatilis, *Mül.* Adhering to stones in Whitelassbeck, near Thirsk; in the Codbeck, and other localities.

Velletia lacustris, *Gray.* My friend, J. W. Watson, found this species a few years ago, in a pond near Thirsk. We proceeded together to the place a short time ago, but could not procure specimens; and I have since been there alone, with a similar result.

Physa fontinalis, *Drap.* Wood-end brick-ponds.—*G. R. Baker.* Frequent in ditches at Newsham carr.

Aplexus hypnorum, *Gray.* Ditch by the roadside, between Thirsk and Topcliffe, in considerable abundance!—*J. Foggitt.*

Planorbis corneus, *Drap.* Plentiful in a pond near Topcliffe. Sometimes curiously deformed.

Planorbis albus, *Mül.* Pond between Kilvington and Feliskirk

Panorbis marginatus, *Drap.* Very common in ponds and ditches.

Planorbis spirorbis, *Mül.* Amongst *Equiseta* in a pond between Gormire and Whitsuncliffe, and in the ditch on the roadside between Thirsk and Topcliffe.

Planorbis contortus, *Mül.* Plentiful in similar situations to the preceding.

Cyclas cornea, *Lam.* In similar situations.

Pisidium pulchellum, *Jen.* Brick-ponds between Thirsk and Wood-end!—*G. R. Baker.* Ditches at Newsham carr.

Pisidium amnicum, *Jen.* Pond in the Holmes, Thirsk!—*J. Foggitt.* A single immature specimen only.

Anodon cygneus, *Turt.* Very abundant. Arriving at great perfection in the Wood-end brick-ponds.

Unio pictorum, *Lam.* In the lake at Studley park.—*J. G. Baker.* Mill-dam, Codbeck, Thirsk, in considerable abundance.

October 24th, 1854.

A LIST OF, AND NOTES ON, THE FUNGI FOUND IN THE NEIGHBOURHOOD OF EXETER.

BY MR. EDWARD PARFITT.

(Continued from page 81.)

Agaricus odoratus. Not common; one or two in Messrs. Veitch's Nursery. Sept. 29th, 1852.

A. dealbatus. In pastures round Exeter; rather common.

A. ædematopus. Coaver; rare. Nov. 1851.

A. virgineus. Meadows at Alphington and Exeter. Nov. 1851. A variety also occurs, with the pileus umbonate in all stages of growth, smooth and sated, as in the true species; the margin at first entire, at length splitting in several places, somewhat in the way of *A. rimosus*; otherwise it does not differ from the normal form.

A. ceraceus. Three or four specimens of this occurred on the lawn at Parkers-well House, Oct. 24th, 1852. I have not met with any since.

A. puniceus. Three specimens of this most beautiful Agaric I found in the long grass left for hay on the lawn at Coaver House, on the 12th of June, 1852. I have not had the pleasure of seeing any since, so that I must consider it a rare species.

A. coccineus. Rather common in a field at Matford. Sept. 1852.

A. miniatus. This is a rare species with us; perhaps for the want of more boggy ground. I have only met with it but once; and that on Haldon, in a wet raised hillock, in a bog, Sept. 1851.

A. laccatus. Rather common in dampish places in meadows round Exeter. Sept. 30th, 1852.

A. sulphureus. Not common. Three or four in Stoke Wood, April 28th, 1851.

A. lascivus. A few of this species came up in one of the stoves at Messrs. Veitch's Nursery, in some fibrous peat, April 4th, 1853.

A. velutipes. Almost every old stump is furnished with tufts of this pretty, though common species.

A. fusipes. Immense tufts of this are frequently to be met with, on and about the stumps of old elms. I met with some very fine ones in Sir Stafford Northcote's park, in July, 1853.

A. butyraceus. On the grass plot at Coaver House, May 10th, 1853; not common.

A. compressus. I have not met with more than one or two of this fine Agaric; those were found in a pasture at Matford, Oct. 1851.

A. peronatus. A few specimens in Stoke Wood, Sept. 1852.

A. orcadensis. Particularly common in almost all the meadows and pastures round Exeter.

A. undatus. This well marked species came up in a stove at Messrs. Veitch's Nursery, and was given me by Mr. Taylor, the intelligent foreman in the new department, that is, where the new plants are placed when imported to this country by that eminent firm. Aug. 12th, 1854.

A. Rotula. Is not common with us, at least in this neighbourhood. I met with a few specimens in April, 1853.

A. androsaceus. A great number of this pretty little species came up on some stems of grass, under a large Pinus at Coaver, Aug. 12th, 1853.

A. Iris. This is a very beautiful little species. I met with several of it growing amongst dead Scotch fir cones and leaves, along with *A. galericulatus*, in the small belt of wood round Coaver House, May 17th, 1853; but have not seen any before or since.

A. alcalinus. This is rare with us; I have only met with two or three. These were found in an oak stake stuck into a heap of half rotten leaves, Oct. 1853. Coaver.

A. galericulatus. Very common amongst Scotch fir and other leaves. March, 1853.

A. polygrammus. This is a rare and beautiful species; the delicate whitish stem looking like a miniature fluted column; and the very white gills, and brownish umbonate pileus, give this Agaric a very graceful appearance; it is quite a favourite of mine.

A. galopus. Rather common on Scotch fir cones and leaves, lying on the ground. Oct. 27th, 1852.

A. strobilinus. Rare. Growing out from between the scales of *Pinus Pinaster*. But my specimens appear to be larger than those described by Dr. Greville; as mine were about an inch from the margin of the pileus to the apex, whereas those above mentioned were from three to five lines. It is a beautiful species. Coaver, Oct. 1851.

A. stylobatus. This delicate and beautiful little species I have met with, on the rugged bark of elms about Exeter, Dec. 23rd, 1852; but I consider it a rare species, as I have not seen any since.

A. Venerimus. I have only met with this once; and those were found in an old laburnum, that was partly blown down, and cracked in the middle. In this crack was an accumulation of rotten bark, and other *debris* caused by wood-lice (*Onisci*); and on this sawdust-like stuff these Agarics were growing, and very beautiful they looked; their delicate white fragile forms contrasted greatly with the *debris*, and the dark fissure in which they were growing.

A. corticola. This is to be met with in immense numbers, some winters covering the bark of elms for a foot or two; and a beautiful and curious appearance they have, when seen *en masse*. I have also met with, though sparingly, a very beautiful variety of a dark lilac colour. Also another very beautiful variety, with stem and epidermis of a dark purplish lead colour; lamella distant and slightly decurrent, pale bluish coloured; the

whole plant covered with short down. These were growing in an orchid block, in the stove at Coaver House, Sept. 1851.

A. Fibula. Not common. Found amongst short mossy grass, on the lawn at Coaver House, June 23rd, 1853.

A. muralis. A great number of this species were growing on a mossy wall on the Topsham road, through the winter of 1851—2.

A. inconstans. Rarc. I met with a tuft of this curious Fungus in the grounds of Sir T. D. Acland, having called on the gardener to see the place, Sept. 14th, 1853; and in walking round, a tuft of this caught my eye, growing on an old elm stump sawn off nearly even with the ground. I have not seen any before or since.

A. ostreatus. On the stump of a beech tree at Bellare, Dec. 23rd, 1852. Not common.

A. Ulmarius. A splendid specimen or two I found on an elm stump in Messrs. Veitches' Nursery, Aug. 30th, 1852; but have not seen any since, so consequently consider it rare.

A. stypticus. This is not a common species with us, though it appears to be so in other places. I have only met with perhaps half a score specimens; and those were found on the perpendicular edges of flower beds on the grass, probably springing from dead roots of grass that are cut through by the edging knife. Sept. 1852.

Exeter, Sept. 30th, 1854.

INJURIOUS INSECTS, No. IV.

THE COMMON WASP. (*VESPA VULGARIS*, L.)

BY J. Mc'INTOSH, ESQ.

(Continued from page 34.)

BEFORE proceeding with the materials employed by the common Wasp in the construction of its dwelling, it will, perhaps, not be amiss to lay before the readers of THE NATURALIST some account of the destruction committed by this insect on the productions of the horticulturist; and, astonishing as they may appear, they will be found in the whole to be pretty correct.

In the "Illustrated London News" of the 20th of July, 1848, it is stated, that Sir John Lubbock, Bart., of High Elms, Down Kent, having some time since commissioned the North End schoolmaster to give a penny for every Wasp brought to him, he had taken, in all, 1,600 Wasps, exclusive of those that had been caught by various persons about Sir John's estate. Every Wasp destroyed is a nest annihilated, at this period of the year; and,

allowing one in five to be male, there are no less than 1,280 nests destroyed. Granting that the breeders produce, on an average, 1,000 young, there will be 1,280,000 young destroyed; which, with the parent Wasps, form 1,281,600—the total number which the vicinity of High Elms has been freed from. Supposing (which is within compass) that every half-dozen wasps destroy 2 apples, 2 plums, 1 peach, 1 pear; the fruit thus saved from destruction would be—apples, 427,200; plums, 427,200; peaches, 213,600; pears, 213,600. Reckoning the apples at 10 a penny, plums 24 do., peaches 2 do., pears 12 do.; we have the money saved, thus—in apples, £173; in plums, £74. 3s. 4d.; in peaches, £445; in pears, £76. 3s. 4d.; total, £771. 6s. 8d.!

Again: The "Gardeners and Farmers' Journal" for July, 1848, states that the Earl of Traquair, in Scotland, has for many years been in the habit of giving a premium of threepence per dozen to the children in the neighbourhood, in the months of April and May; and that the present has not been a barren season, the following account will show. The children are directed to attend in the ancient hall of Traquair on certain days, when they are drawn up rank and file, like a regiment of soldiers, with their bags in hand, filled with their tiny game. Beginning at one end of the line, the Wasps are all counted, and immediately the young sportsman is paid ready cash for the booty produced; when off he goes, like a lamp-lighter, ready to renew the sport. On the 6th of May, 22 girls presented 219 dozens, (one of them had 24 dozens,) weighing 11 ounces: 9th of May, 24 boys brought 380½ dozens, weighing 18 ounces; one boy had 34 dozens: 13th of May, 23 girls brought 375 dozens, weighing 20 ounces; one fortunate girl had 43 dozens, being the highest number taken by one person that season: 16th of May, 9 boys brought 111½ dozens, weighing 6 ounces; the highest number being 26½ dozens: 20th of May, 31 girls brought 151½ dozens, weighing 7½ ounces. The total, in round numbers, and weight, was, 14,750, or 1,237½ dozens, weighing 63 ounces.

Now, by following the rules of calculation adopted in Kent, let us see what destruction such a batch of Wasps might have effected. It will be observed, that there was considerably more than nine times the number of Wasps killed at Traquair than were killed in Kent; consequently, the loss in fruit and honey must have been quite beyond conception. In apples it would be 3,844,800, in plums 3,844,800, in pears 1,922,400. As very few peaches are cultivated out of doors in the neighbourhood of Traquair, we will place apricots in their place, and at the same time give the crop of cherries into the bargain; we have the number of apricots, 1,922,400. It is well known, that a strong nest of Wasps will, in eight or ten days, render the best bee-hive useless. But, leaving the loss of honey out of our calculation, let us glance at the loss of money for fruit alone. In apples, at 10 a penny, £1,602; in plums, 24 do., £647 10s.; in apricots, £4,105; in pears, 12 do., £647 10s.: total, £7,002!!

What I have stated above will be sufficient to show how destructive must be the common Wasp to cultivated fruits. They also love to lodge themselves in the neighbourhood of *Bees*. We have known a queen Wasp force its way into a strong bee-hive, and not only commence building, but carry on its labour; the lawful owners diminishing in number as the Wasps increased; till at last the hive was destroyed, and the Wasps became the tenants for a time; when a dose of sulphur put an end to their right of possession—in fact, to their lives!

Peace does not always reign in the societies of Wasps. Combats often take place among the workers, or between them and the males; the last individuals are more cowardly or weaker than the others. These combats are seldom fatal: yet, however, we have watched them at battle, and the result has been the death of the weaker one, the victor carrying off the head of his enemy in triumph! We have even seen them set to work to carve up, and eat piecemeal, their fallen foe, with the dispatch of a cannibal.

5, *Middle-street, Taunton.*

A MEMENTO FROM THE YARE.

BY G. R. TWINN, ESQ.

(Continued from page 277, vol. iv.)

THE noon of the 22nd of June, 1834, found me enjoying the hospitality of as kind a family as ever God planted on his lovely earth. Not only were the good people devoted to the natural stock of their farm-yard, but they had a love and sympathy for all living things.

"He prayeth best, who loveth best
All things, both great and small."

A more observant out-door naturalist than Mr. P., I at present am not acquainted with. Both he and his dear partner are never happier, than when making others happy. Canaries, a globe of Gold and Silver Fish, Spanish Fowls, Golden Pheasants, pet Lambs, and a host of other *living* creatures were there to amuse. Preserved birds, (among them a very large Heron,) and a fine Otter, (obtained from the Yare, that meanders through their meadows,) were among the *dead* creatures, to afford delight and instruction. Very many remarks and jottings were offered me by the good people, who had a fund of information in-connection with each object.

In the afternoon, we rowed down the Yare, amid the richest foliage and most lovely scenery; gathering the Water Lily (*Nymphaea alba*) in all its beauty, the Water Rush, and Arrow-head. (*Scirpus*, et *Sagitta sagittifolia*.)

The Water Iris (*Iris pseudacorus*) grew among the reedy jungles, and we brought home bunches of it. One stem I obtained had eight flowers on, and was nearly four feet high. We moved occasionally, or rather stopped, to secure a nest from the overhanging boughs; that of a Chaffinch with young, a Thrush's with young, nearly half a score of the Reed Warbler's we met with, and two of the Reed Sparrow. In a hollow recess, at the very top of a sere and dead ash, a Green Woodpecker had its home all snug. We passed a party angling for Trout; and soon left them, to return on our way home for the welcome tea, so characteristic of Norfolk farm-houses, where an abundance of good cream is ever ready and most inviting.

After this repast, the kind yeoman took his hand-nets, and conducted us into the meads, to a little runnel that seeks the Yare, about five feet wide, and far from deep. The nets were cast, and his own promised well; but, alas, by some means, all escaped; and they appeared very fine fish, too, to render our mortification more acute: but the net employed by his nephew, a young man who most keenly enjoyed the sport, was well towed and managed. Surrounding it with a second net to prevent escape, the heavy drag soon told of the spoil, very quickly to be secured. With care and great caution, he landed six of the finest Bream imaginable, of a thick growth, and well-conditioned; the average weight was not quite seven pounds each. It was an excellent haul for a small hand-net, and gladdened our hearts; for it repaid the previous disappointment.

I carried one of them into Essex on the Saturday, June 24th; when I left, with a sorrowful look on old haunts and places endeared to me; but with a satisfied breast at the warm treatment I had received from friends, and with a rich acquaintance of Nature's beauty and God's love, amid which, for the week I had been luxuriating.

Just as I started for the train, a small packet was put into my hands; and it contained a nice root of the *Asplenium Ruta-muraria*, or Wall-rue, from Bawburgh church. It is now flourishing capitally. Sunny Yare, adieu!

The Elms, Moseley Road, Birmingham,
Dec. 6th, 1854.

Miscellaneous Notices.

On the Instinct and Communicative Powers of the Horse.—According to promise, I send thee the anecdote respecting the sagacity of the Horse:—When a boy, being at Whitechurch, near Blandford, Dorset, I noticed two cart-horses that were driven from a farm-yard to drink. The brook was frozen over, and one horse struck with his foot to break the ice, but it was too hard to yield. The two horses then, standing side by side, lifted each

a foot simultaneously, and causing their hoofs to descend together, the united impulse broke the ice. Men are aware that "union is strength;" but men could not have done better. Alexander Pope speaks of the "half-reasoning Elephant;" would not facts, such as the above, justify the epithet, "fully reasoning horse?"—W. L. BELLINGS, Redruth, 20th of 12th month, 1854.

Late appearance of the Martin. (*Hirundo urbica*.)—November 19th,—A couple of young birds were flying about at East Looe to-day, during a cold east wind, with bright sunshine.—CLEMENT JACKSON, East Looe, Cornwall, 1st month, 13th, 1855.

Notes on the Swift. (*Cypselus apus*.)—From the observations of many years, made at East Looe, these birds appear to be very regular in their migrations, being first observed on the 1st of May, and last seen on the 12th of August, within a day or two of each date. About the beginning of August, I have often observed them, in considerable numbers, flying high during fine weather, as if exercising their young previous to departure. July 12th, 1854,—I observed a flight of about twenty pairs busily hawking about our hill; and during the latter part of the month, found them very abundant at Hereford and the adjacent villages. August 10th,—Saw a lot at Evesham, after which, although always on the look out, did not see any more till August 29th; a pair were actively flying about at Leamington, where they continued for some days. September 2nd,—Saw a single Swift fly into a hole, in the ruins of Kenilworth castle, and watched it out again, to make sure of its identity. September 22nd,—Whilst walking on the walls of Chester, saw a single Swift in erratic flight, like a pilgrim who had lost his way, and was ill at ease keeping apart from the numerous Swallows on the wing.—CLEMENT JACKSON, East Looe, Cornwall, 1st month, 13th, 1855.

Arrival of the Hirundines, &c., at Minehead, Somerset, in 1854.—By Major Gifford. *Sand Martin.* (*Hirundo riparia*.)—April 12th. *Swallow.* (*Hirundo rustica*.)—April 14th one seen, and several on the 17th. *Cuckoo.* (*Cuculus canorus*.)—April 19th. *Martin.* (*Hirundo urbica*.)—April 25th, saw several. *Swift.* (*Cypselus apus*.)—May 1st, one flying over the market-place. *Time of departure in 1854.*—Saw no Swifts after the 7th August. The Martins and Swallows seemed to leave about the 9th October; but on the 19th instant, the Martins re-appeared in considerable numbers, and remained up to the 28th instant. In 1853,* no Swifts were seen after the 12th August, and the Martins and Swallows left about the 12th October.

Egyptian Goose (*Anser Egyptiacus*.)—A fine specimen of this bird was sent to me a few weeks back. It was shot on the Trent, near Repton—F. N. BURTON, Uppingham, Rutland, 12th March, 1855.—We should be glad of further particulars as to this bird; especially whether it had the appearance of a wild bird, or of one escaped from confinement.—B. R. M.

* See THE NATURALIST, vol. iii. p. 203.

Occurrence of the Iceland Gull, and other scarce birds, in the neighbourhood of Plymouth, during the severe frost of January and February, 1855. The *Iceland Gull* (*Larus leucopterus*) was obtained by the Rev. R. A. Julian, Jan. 30th, on the Laira. This species is far less frequent with us than *Larus glaucus*. Indeed, the only specimen I know of, killed in this locality, is in the collection of Dr. Moore, of Plymouth, where it has been for many years. During the late severe weather, some fine examples of the Gadwall, Goosander, and Smew have been killed; also many Bitterns. The cold appears to have had great effect on the Common Heron, from the unusual quantity received by the Taxidermists of Plymouth for preservation.—JOHN GATCOMBE,, Wyndham-Place, Plymouth, March 10th, 1855.

A Greater Shearwater (*Puffinus major*) was taken alive, in Skinner Lane, Leeds, October 6th, 1854.—R. HOBSON, M.D., Leeds.

Rare Birds near Worcester.—A few days since, I killed near this place a specimen of the Cirl Bunting. (*Emberiza Cirlus*.) it was a male, and was feeding on seeds with a flock of *Emberiza citrinella*. A specimen of the Ortolan, (*Emberiza schœniclus*), [*Quere, E. Hortulana, B. R. M.*,] was also shot by a friend a short time ago, amongst others of the yellow species. These are the only individuals of their species I have yet seen in this neighbourhood, but I am inclined to believe they are much more numerous than is generally supposed, and are by most persons confounded with the commoner species, owing to their great resemblance. In the month of March last, a gamekeeper brought me two male Ring Ouzels, (*Turdus torquatus*), which he had shot on Broadway Hill. He had never seen birds like them before, and called them "fancy blackbirds." The only other specimen of this bird I have seen here, was killed some years ago, in the autumn; so that they were only migrating stragglers.—J. N. BEADLES, Surgeon, Broadway, Worcestershire, Dec. 6th, 1854.

Occurrence of Rare Birds at Redcar.—Five specimens of the Grey Phalarope (*Phalaropus lobatus*) were killed here during the months of November and December, and other two seen about a fortnight ago. A fine specimen of that very rare bird, the *Shore Lark*, (*Alauda alpestris*), and a fine immature specimen of the *Iceland Gull* (*Larus Icelandicus*) were also killed.—T. S. RUDD, Redcar, 17th Jan. 1855.

The Wolf Fish. (*Anarrhichus lupus*.)—This fish is very common here, and agrees in size with those of your correspondent. Our fishermen generally call them "Wauffs," and (alas! in these days of education) appear to entertain some little degree of superstition as to selling them; they invariably divide the captured fish amongst their mates, and undoubtedly they well know its richness.—D. FERGUSON, Redcar, Oct. 5th, 1854.



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NOTICES TO CORRESPONDENTS.

Communications have been received up to June 15th, from W. KIDD, Esq.—Rev. W. KENDALL—R. ANDREWS, Esq.—G. GUYON, Esq.

Contributions have been received up to June 15th, from Rev. R. P. ALINGTON—W. T. FULLER, Esq., Esq.—W. KIDD, Esq.—O. A. MOORE, Esq.

BOOKS RECEIVED: The Natural History Review. No. 6, for April, 1855. London: Highley.

A Synopsis of the Edible Fishes of the Cape of Good Hope. By L. Pappé, M. D. London: Algar and Street. Pp. 34.

The Floricultural Cabinet, for January and February, 1855. London: Simpkin and Marshall.

A Plea for Geology, by E. P. H. Vaughan. London: J. Trimen. Pp. 20.

The Entomologist's Annual for 1855. Second Edition. By H. T. Stainton, Esq. London: Van Voorst. Pp. 153. One coloured Plate.

A List of the British Species of Geodephaga, for Marking Desiderata and Labelling Collections. By G. Guyon. Richmond: Surrey.

Kidd's Treatises on Song Birds. (*People's Edition*.)—The Canary, by William Kidd. London: Groombridge. Pp. 26.

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SOME ACCOUNT OF WILLIAM DAWSON, LATE OF LEEDS, SURGEON.

BY O. A. MOORE, ESQ.



WILLIAM DAWSON, the subject of this Notice, was the son of James Dawson, of Leeds, Mercer, by his wife Elizabeth, daughter of Joseph Ibbetson, Esq., Mayor of Leeds in 1685. His father had a numerous family, many of whom seem to have died in their infancy, and we have no information as to the time of his birth. That it was subsequent to 1714 is probable, since he does not appear in the genealogy given at page 127 of the original edition of Thoresby's *Ducatus Leodiensis*, although the pedigree of the family is fully given under that of the Brearey's, at page 125 of Whitaker's edition. William was educated for the profession of a Surgeon-Apothecary, and probably passed the usual period, which was customary at that time, in walking the hospitals in London, previous to his commencing the practice of his profession in his native town. There is in the possession of the writer, a certificate, with the name of William Dawson, in red type and flowery margin, purporting to be printed on the river Thames, in the great frost in the month of January, 1739-40.

Mr. Dawson commenced practice in his native town, Leeds, soon after this period; and in 1750, we find him in extensive practice there; for, in that year, the parents of Mr Wm. Hey placed the future eminent surgeon with him as one of his apprentices. During several years previous to this time, Mr. Dawson had applied himself to the study of Natural History, and of Botany in particular. His researches extended, as we shall afterwards see, into various parts of the neighbourhood of Leeds and Settle, and from the scanty records of his investigations which have come down to us, there is reason to regret that more is not known of his labours in the pursuit of his favourite science. Suffice it to say, that a large proportion of the rare plants subsequently discovered in those parts, had previously been recorded in his MSS. list. The artificial system of Linnæus not being then in use in this country, (the first edition of Hudson's *Flora Anglica* was published in 1762,) Mr. Dawson adopted that of our illustrious countryman, Ray, and in this he instructed his pupil, Mr. Hey, a fact recorded in Pearson's *Life of Hey*, appendix, page 131, where several other incidental notices of his master may be found. It will be sufficient merely to allude to one of these, in which it is stated, that to the aid afforded by his kind master, under circumstances where his life was endangered from an imprudent experiment with a powerful opiate remedy, the illustrious Wm. Hey, of Leeds, was indebted for his recovery.

Mr. Dawson married Mary, daughter of Josiah Dawson, Vicar of Giggleswick, near Settle; (*vide* Whitaker's *History of Craven*;) but it does not appear

that he had any family. The circumstance is, however, interesting, as suggesting means of informing himself concerning the Flora of that district, which he may be supposed to have possessed, and to have had the opportunity of verifying. Several Settle plants, since recorded, will be found in Mr. Dawson's list.

The negotiations for a partnership between Mr. Dawson and his former pupil not having been successful, he took his nephew, Mr. James Lucas, into partnership, and as he himself scarcely professed operative surgery, Mr. Hey had Mr. Lucas associated with him in the surgical staff of the Leeds Infirmary, on its foundation. The latter gentleman subsequently attained considerable fame as a surgeon and author on Medical Education; and having retired from practice, in 1794, finally settled at Ripon, where he died, in 1814. (*vide* Pearson's Life of Hey, page 36.) On the death of Mr. Lucas' widow, his library, including several of Mr. Dawson's works on Natural History were sold, as well as two large collections of dried plants. The latter were purchased by Captain Viner, who presented them to the Ripon Mechanics' Institute. Of his books, a few came, by purchase, into the possession of the writer, including Tournefort's *Institutiones Rei Herbariæ*, Gmelins' *Flora Sibirica*, vol. 1, and an interleaved copy of Wilson's *Synopsis of British Plants*, containing, in MSS., the localities, of which the list given at the end is a selection.

During 1775-6, Mr. Dawson's health seems to have declined, and he probably did not live long after this period. Some letters, from a relative to a niece of his, written about this time, allude to his sufferings in terms which evince the esteem in which the Naturalist was held by his relatives and friends. These are now in the possession of Mr. Lucas' niece, having come to her through her mother, Mrs. Moore, a niece of Mr. Dawson, and wife of the Vicar of Doncaster. They are addressed to her aunt, Mr. Lucas' sister.

Mr. Dawson's name, as a successful cultivator of botanical science, is not wholly unknown to fame, for we find him incidentally noticed in Pulteney's *Progress of Botany*; and in Blackstone's *Specimen Botanicum*, (published in London, in 1746,) thirteen localities, for rare plants, are given on his authority; these latter mostly occur in his list appended to the copy of Wilson's *Synopsis*. The list alluded to, is entitled "Observations on the Plants growing wild about the town of Leeds, with their Habitats and Time of Flowering." This description is scarcely, however, sufficiently comprehensive, as several Settle localities, as well as others, are noticed, under the heads of the different species enumerated. The time of flowering is accurately specified; and, in some cases, it is used to fix the distinction of nearly allied species. For instance: both *Epipactis ovalis* and *Epipactis rubra* are noticed; but the one is said to flower in July, the other in June. This kind of distinction is sanctioned by the authority of Sir J. E. Smith, who calls in question the localities given by Deering, for *Orchis hircina*, from the very

early period of flowering mentioned by him. The plants in Mr. Dawson's list are under the nomenclature of Ray, which, however, are here altered for the modern names, except in those instances in which the accuracy of the discrimination of species is likely to be a matter of question. The accompanying account of the herbarium alluded to, may possibly be interesting to some of our readers.

This Herbarium, which is now in the Mechanic's Institute at Ripon, consists of four large vols. folio,—three of these evidently belonging to one set, and containing plants, named, and with references to synonyms taken from the last edition of Ray's Synopsis. The hand-writing is that of Mr. Dawson, and the plants mostly correctly named: in those instances where this is not the case, either a confusion of names, or the absence of a correct discrimination of species in books, will account for the differences.

The plants follow the arrangement of the Synopsis; commencing with Fungi, (*Sponges and Corallines*,) Algæ, Musci, Lichenes, Equiseta, &c., flowering herbs, and lastly grasses, sedges, and trees, or shrubs. They are all placed on half sheets of a stout white paper, to which they are gummed, and have the name, &c., at the side; but usually without any localities assigned. They seem mostly to be collected by Mr. Dawson himself, as in the other Herbarium, the specimens of which are frequently from the collections of other botanists, this fact is stated, as well as the locality. The separate half sheets are placed between large leaves of coarse blue paper, of which the book is composed.

The other Herbarium consists of but one whole bound volume; it is larger than the other volumes, and is, like them, labelled on the outside "*Hortus Siccus*." Although the arrangement is much the same as in the three vol. Herbarium, the specimens are not unfrequently the communication of friends; among whom may be mentioned Dr. Richardson, attached to *Woodsia hyperborea*, and other specimens; and under a specimen of *alechemilla alpina*, we are informed, that the "plants marked with the letters H. E.," (and they are numerous,) "I received from James Sherard, a botanist of the first order, July 15th, 1737;" and there are, accordingly, several plants named, and with synonyms, &c., on strips of paper, in Sherard's own hand-writing. A specimen of *campanula hederifolia* is "from Dr. Dillenius." There are also various specimens marked as gathered by "Mr. Dawson," which might lead to the supposition that this Herbarium originally belonged to a friend of Mr. William Dawson. It is, however, probable, that either some relative is meant, or he thus designates himself; seeing that the hand-writing is the same as that of the other Herbarium, and the interleaved copy of Wilson's Synopsis. It contains native specimens of several very rare British plants; as, *Cypripedium calceolus*, *Orchis hircina*, &c., and of several then recently noticed species; as, *Woodsia hyperborea*, *Centunculus minimus*, &c. A Herbarium containing both Cryptogamic and Phanero-

gamic plants, named and arranged according to Ray's method, must certainly be considered an interesting object, many of the specimens serving to illustrate the synonymy of modern works.

Without attempting to give a complete series of the Yorkshire localities noticed in his list, a selection of a few from the Herbarium and the Synopsis will no doubt prove interesting, at least to Yorkshire naturalists.

Polystichum aculeatum. Giant Hill woods, and Addle Crag.

Lactuca montana,—var. β . Rocks at Addle Crag.

Osmunda regalis. Knaresbro' Forest, about half a mile from Harrogate, upon a bog, near Huick Stone Crag.

Gymnocarpium Dryopteris. Plentifully, amongst the rocks by Stanebeck, in Nidsdale.

Ophioglossum vulgatum,—fr. May. In Sainton Ings, plentifully; and in several pastures and meadows about the town.

Botrychium lunaria. In the Brekes.

Equisetum Telmateia. Gifton wood.

——— *sylvaticum*, β . Marshy close, the left hand side of the lane leading from Chapel-town to the Hare hills.

Hippuris vulgaris. Near Tadcaster mill.

Humulus lupulus. Hedges about Leeds, Seacroft, &c.

Acetosa rotundifolia repens Eboracensis, (*Oxyria reniformis*.) On Giggleswick Scar. Junio floret.

Herniaria, (*glabra*.) On Bradford moor. Augusto floret.

Lactuca virosa. Hedge side leading from Halton Dial to Seacroft.

Inula Helenium. Close near St. Peter's Well. Fl. June.

Jacobæa Pannonica folio non laciniato, (*Cineraria campestris*.) In the new field near Ledstone Hall; plentifully; flowers in May.

Cnicus heterophyllus. Pastures about Hinkle-haugh.

Carlina acaulis minore purpureo flore, (*Cnicus acaulis*.) About Ledstone.

Thalictrum flexuosum. Austwick Scar. Fl. July.

Ananthe crocata. Ditches, frequently. Marshy close, near Kirkstall abbey; abundantly.

——— *Phellandrium*. Ditch in Jacob Browne's pasture.

Apium graveolens. Ditch near Seacroft. Fl. June.

Asperula cynanchica. Bramham moor; parsonage pasture, Ledsham, and about Kippax; plentifully.

Aparine minima, (*Galium Anglicum*.) Upon Addle Crag.

Cynoglossum officinale. Kippax; road from Chapel-town to Moor-town. Fl. June, July.

Mentha piperita. By the waterside in Water-lane, the right hand, leading from Leeds to Holbeck.

Salvia verbenaca. Close near Ledsham church.

Marrubium vulgare. Wayside from Garforth to Peckfield.

Leonurus cardiaca. By the wayside going by Mr. Brook's house, at Killingbeck.

Calamintha officinalis. Roadside as you go the horse-way to Woodhouse Carr; and in Burley-lane, the right hand of the hill, leading to North Hall.

——— *nepeta.* Left hand of the road leading through Whitechurch. Julio et Augusto floret.

Malva moschata. Pasture near Droamy-laith; and about Giant Hill. Fl. June and July.

Potentilla verna. In the new field near Ledstone Hall; and several places near Ledsham. Fl. May.

Spiræa filipendula. Ledstone park.

Anemone Pulsatilla. April fl. S.W. side of Kippax town close; in a pasture near Ledsham church; and in the new field; plentifully.

Rubus saxatilis. In Haselwood.

Actæa spicata. Haselwood, near Sir Walter Vavasour's, upon a bank side near the hedge. Fl. June.

Convallaria polygonatum. Scarrs four miles from Settle, toward Ingleborough.

Paris quadrifolia. Westwood; Haselwood.

Atropa Belladonna. Grows plentifully, near Sir Walter Vavasour's.

Rhodiola rosea. This I saw, in company with Mr. Thornbeck, amongst the rocks at a place called Foal's Foot, on Ingleborough. Junio floret.

Sedum villosum. Moist rocks on the side of Ingleborough.

Aquilegia vulgaris. Haselwood.

Helleborus viridis. Bottom of the hedge near Mr. Gunnerson's house, the right hand as you go to Bramham moor, in Kidhall lane. April floret.

Campanula latifolia. Near the road from Leeds to Scott wood; and near Burley.

Gentiana pneumonanthe. Bramham moor, towards Blackfen. Fl. July and August.

——— *campestris.* Near Ledstone. Fl. August.

Chlora perfoliata. About Ledstone Hall, Kippax, &c.

Utricularia minor. Upon the great bog, the left hand of Blackmoor, leading from Moor-town to Wetherby.

Orobanche major. Near Giant Hill; and in Haselwood. Fl. May and June.

Sinapis tenuifolia. Walls about Pontefract and castle. July fl.

Sisymbrium Sophia. Near Kippax church; plentifully.

Monotropa Hypopitys. "This the author found in flower in Haselwood, (June 22nd, 1747,) the left hand, entering the wood from Bramham moor."

Astragalus hypoglottis. In the new field; and in the pasture near Ledstone Hall; plentifully.

Dianthus plumarius. Fountains abbey walls.

Saponaria officinalis. The left hand of the road near the gate leading from Halton to Lord Irwin's.

Hypericum Elodes. Upon the bog near Addle Dam; and upon the bog on Blackmoor.

Arenaria verna. Roadside from Settle to Malham; and on the Scar at the back of Settle.

Drosera longifolia. Bramham moor, on a marshy place near Blackfen.

Geranium sylvaticum, By hedges and in the field, the footway to Armley.

Pyrola rotundifolia major. Blackfen wood; and Westwood.

Ornithogalum umbellatum. In the new field, near Ledstone Hall.

Colekicum autumnale. About Aberford; near Swillington; and in a pasture near the end of Kidhall lane.

Orehis pyramidalis. About Ledsham.

Neottia spiralis. In the new field; and near Ledstone Hall.

Ophrys apifera. In Haselwood, by the wayside, on the left hand leading from Aberforth to Sir W. Vavasour's.

Habenaria viridis. Pastures left hand of Kidhall lane, near Bramham moor.

Listera nidus avis. Near footpath leading to Armley; the end of Giant Hill wood.—Mr. Browne.

—— *cordata*. In a ditch upon Blackmoor, amongst the heath; the first hill beyond Thief lane, left hand of road to Wetherby.

Epipactis ovalis. On Giggleswick Scar; plentifully, July fl.; and upon a bank side in the parsonage pasture, at Ledsham.

Epipactis rubra. Parsonage pasture, near Ledsham, June fl.

Andromeda polifolia. Warrington Moss, Near Ingleton.

The following plants are noticed, but without localities:—*Caucalis Daucooides*, *Senecio viscosus*, *Archangelica officinalis*, *Sison amomum*, *Petroselinum segetum*, *Sium inundatum*.

As respects the plants enumerated in the list, there seems no reason to doubt that *Cineraria* and *Herniaria*, although not previously noticed in any Yorkshire list, were found by Mr. Dawson. As regards *Oxyria*, *Oniscus ascaulis*, *Epipactis rubra*, *Pyrola rotundifolia*, more doubt may reasonably be entertained; it is certain that some of these have been confounded with allied species, and in two or three instances this occurs in Mr. Dawson's Herbarium, even when other specimens of the same, correctly named, are found in another place.

York, 1855.

MOLLUSCA IN THE NEIGHBOURHOOD OF NICE.

NAMES FROM DRAPARNAUD'S "MOLLUSQUES TERRESTRES."

1. *Helix naticoides*. (*Helix aperta*, Forbes and Hanley.) Very abundant. It is collected with *H. aspersa*, and eaten by the people. I have often found it on the *Agave Americana*.

2. *Helix aspersa*. Common, and of a large size.

3. *Helix nemoralis*. By no means abundant. Near the monastery of Cimiez, in one or two places.

4. *Helix candidissima*. Very common, especially near Villa Franca.

5. *Helix rhodostoma*. (*H. Pisana*.) On dry banks, by the side of the Genoa road.

6. *Helix cespitum*. (*H. ericetorum*.) Common with the above.

7. *Helix variabilis*. (*H. virgata*.) Common.

8. *Helix obvoluta*. Rare. Near Cimiez. The young shell very hirsute.

9. *Helix vermiculata*. Among the Olive plantations, in many places; very variable in colour.

10. *Helix elegans*. Common on dry banks.

11. *Helix splendida*. By the Genoa road; Castle Hill at Nice, &c.

12. *Helix algira*. Abundant near Cimiez; occasionally very large.

13. *Helix conspurcata*. Under stones on the Castle Hill at Nice.

14. *Helix cingulata*. Within a few yards of the summit of Monte Calvo; Olive ground near Beaulieu, but rare.

15. *Bulimus decollatus*. Very abundant on banks, &c.

16. *Bulimus ventricosus*. On wet moss by the side of rivulets.

17. *Pupa cinerea*. Very common on walls.

18. *Pupa quadridens*. Rare. Cimiez; Monte Albano.

19. *Pupa granum*. One or two near Cimiez.

20. *Succinea putris*. On moss by the side of rivulets.

21. *Limneus pereger*. In streams, but only of a small size.

22. *Physa scaturiginum*. Not common.

23. *Bithinia tentaculata*. In streams, abundant.

24. *Clausilia dubia*. Common on walls.

25. *Cyclostoma elegans*. Very common by the road-sides.

MARINE.

1. *Conus Mediterraneus*. Not rare; on rocks.

2. *Columbella rustica*. Common on the sea-shore.

3. *Murex olearium*. Common.

4. *Phasianella pullus*. Very abundant on rocks and algæ.

5. *Cerithium tuberculatum*. Rare.

6. ——— *adversum*. Rare.

7. ——— *reticulatum*.

8. *Littorina neritoides*. Very common.

9. *Trochus conulus*. Rather scarce.
10. ——— *cinerarius*. Common.
11. *Patella vulgata*. Common, but always small.
12. *Bulla lignaria*. Occasionally.
13. *Argonauta Argo*. Small specimens frequently brought in by fishermen.

The above is a list of a few land and fresh-water Shells, which I collected last month, (in the course of a very few days,) in the neighbourhood of Nice Maritime. Should any of your readers form a part of the numerous English who yearly hybernate in that delightful climate, it may perhaps be of use to them. As all in the catalogue were collected in the course of three or four days, the list is no doubt very imperfect. I have, moreover, been unable to ascertain the correct names of several species.—I remain, &c., J. D.

May 8th, 1855.

THE MYRTLE BEE.

BY JAMES S. WALKER, ESQ.

IN the April number of your Magazine, I have read, with interest, a Paper by O. S. Round, Esq., on the "Myrtle Bee."

Though a subscriber to Notes and Queries, I have not observed the discussion to which this gentleman alludes; and my object in writing these few lines is, merely to say, that in New South Wales, I have met with a bird very similar to the Myrtle Bee.

It is a small species of Wren, rather smaller than the Willow Wren; (*Sylvia hippolais*;) colour, a dark yellow; with two or three long feathers in the tail, which give it a pheasant-like appearance. It was a summer visitant to the part of Australia (Twofold Bay) where I resided; its note was a mere buzz; and its habits were just such as your correspondent describes. I generally met with it in long swampy grass; or, still more frequently, in wheat or barley-fields. On a still summer's morning, this little bird seemed fond of perching upon the top of a wheat-stalk; but, on the slightest alarm, it would dive into cover and disappear. It left a strong game scent, and was a great nuisance to the sportsman, as the pointers would potter about after it for a considerable distance; and so adroit was it in dodging through the grass or wheat-field, that, at such times, it was seldom seen, though I have occasionally flushed one with the dog; when thus disturbed, the bird would fly only a few yards, and disappear in the first patch of grass it came to, from whence I never succeeded in dislodging it.

You will observe how very closely this description tallies with that of the "Myrtle Bee;" and I think what I have said corroborates the truth of Captain Brown's account.

During a residence of many years in Australia, I amused myself, by endeavouring to introduce some of the English birds into that country; and, although I did not succeed, (except with the Canary bird,) yet, if you think the account would be of sufficient interest to your readers, I shall be happy to send you a Paper on the subject.

Porchester Square, London, April 27th, 1855.

We shall be very glad to receive the account referred to.—B. R. M.

SHORT NOTES FROM MY NOTE-BOOK.—No. 2.

BY CHARLES H. DASHWOOD, ESQ.

THE Bearded Tit. (*Parus biarmicus*.) These little birds make their appearance in the marshes, in this neighbourhood, about the second week in February; where after remaining a fortnight or three weeks, they disappear, and few, if any, are to be observed during the rest of the year.

Mason Wasp. One day last summer, one of these little insects entered my room, and after buzzing about for a short time, alighted on the table near which I was sitting, and on which was a small hollow ruler. This was soon minutely examined by the little architect, and having apparently satisfied herself as to its fitness for the purpose, she flew away. In about five minutes, she again made her appearance, bearing between her forelegs and mouth, a small lump of clay, which was immediately carried into the hole in the ruler. Finding that she had thus established herself, I moved the ruler nearer to the window, and having fixed it, so as to prevent its industrious little inmate from being disturbed, I set myself to watch her movements. She continued to work incessantly for eleven days, bringing a lump of clay, about the size of a small hemp seed, to the nest every five or ten minutes. On the twelfth, it was completed; and having carefully closed the mouth of the hole with clay, she finally took her departure. During the progress of the work, she would frequently arrive at the window early in the morning, and if she did not find it open, would wait patiently outside—sometimes for several hours, before she could gain admission. What struck me most was, her extreme care, lest any trace of her work should be discovered; if the smallest portion of earth happened to be dropped outside the hole, it was carefully gathered up and carried into the nest. I much regret, that, in attempting to cut the ruler open, the nest was destroyed. The quantity of earth taken out more than filled a dessert spoon. One Wasp, apparently in the pupa state, was found in the nest. The Rev. L. Jenyns, in his "Observations in Natural History," gives an account of several similar nests,

made by Wasps of the genus *Odynerus*. And, probably, the little insect under consideration, may belong to the same genus.

The Hooded Crow. (*Corvus cornix*.) Was first seen, October 4th, and has since been observed in larger numbers than for many years past.

Departure of Summer Birds: Cuckoo, (*Cuculus canorus*,) last heard, July 7th. Blackcap. (*Curruca atricapilla*.) September 16th. Willow Warbler. (*Curruca trochilus*.) October 3rd. Cliff-Chaff. (*Curruca hippolais*.) October 4th. Swift. (*Cypselus vulgaris*.) August 25th. Sand Martin. (*Hirundo riparia*.) October 5th. House Martin. (*Hirundo urbica*.) October 8th. Swallow. (*Hirundo rustica*.) October 12th.

The Admiral Butterfly. (*Vanessa Atalanta*.) This Butterfly, usually so common, has, from some cause or other, been very scarce during the past summer; indeed I have not seen a single specimen. I may add, that this note, and all others, that are entered in my note-book, bear reference to this immediate neighbourhood, except where the contrary is mentioned.

Thornage, Norfolk, November 11th, 1854.

NUCLEUS OF A FLORA OF GOSPORT AND ADJACENT PARTS OF HAMPSHIRE.

BY DR. JOHN ROSE, ASSISTANT SURGEON, R. N.

THE following plants occur near Gosport and the adjacent parts of Hampshire.

Nymphaea alba. Grange farm.

Papaver hybridum. Waste places; Grange and Privet farms.

Glaucium luteum. Stokes Bay; and generally along the coast.

Chelidonium majus. Hedges near Haslar hospital. The name of this plant is derived from *χελιδων*, a swallow; probably, according to Sir W. J. Hooker, from that plant flowering about the time of the arrival of those birds. It is generally about two feet high, with small yellow flowers. The whole plant is full of a fœtid and very acrid yellow juice. It is frequent in England, but very local in Scotland, at least in the northern counties. It has been employed in certain skin diseases, and Dr. Witherington says it removes warts.

Hesperis matronalis, or Dame's Violet, is found near Haslar. It has pale, purplish flowers, which yield a powerful fragrance, especially in the evening. The name is derived from *ἑσπερος*, the evening.

Brassica oleracea. Hill Head, on the shingle. From this species originate the numerous varieties of cabbage.

Silene maritima. Frequent along the coast, as in Stokes Bay.

Silene nutans. Brown Down, near Gosport.

Arenaria peploides, *Erodium maritimum*, *Lotus angustissimus*, *Tamarix gallica*, *Rosa rubiginosa*, are all found near Stokes Bay.

Ulex nanus. Brown Down.

Prunus spinosa. Grange farm; and generally distributed. Dr. Bromfield observes that, in Hampshire, *Prunus spinosa* is linked to *P. insititia* and *P. domestica*, by such imperceptible and evanescent degrees of affinity, as to defy any specific formula that can be framed to distinguish them.

Rosa spinosissima. Brown Down.

Pyrus malus. Grange.

Daucus maritimus. Sandy places near the coast. This is the *δαυκος* of Dioscorides, and is the origin of our carrot.

Eryngium maritimum. Sea-coast.

Aster Tripolium. Salt marshes along the road leading from Alverstoke church to Gosport.

Cuscuta Europæa. Brown Down.

Ligustrum vulgare. Privet farm; and pretty generally distributed.

Vinca major. Rowner copse; and hedges near Haslar.

— *minor*. Ditto ditto.

Datura Stramonium. Waste ground, Grange. I have not yet seen the variety with purple stems and flowers, found by Dr. Bromfield, at Southsea, Portsmouth.

Hyoscyamus niger. Waste ground, Grange farm; and near Haslar barracks.

Digitalis purpurea. Grange. I have not observed the white variety in this county, but I have gathered beautiful specimens of it near Aberdeen and Banff, N. B. Nor have I seen the curious variety with a spurred corolla, found by Dr. Bromfield in the Isle of Wight.

Verbena officinalis. Privet farm. This plant, though pretty common in England, is rare in Ireland, and only occurs in one or two places in Scotland.

Salicornia herbacea. In mud, along the sea shore.

Reseda lutea. Plantations near the sea.

— *fruticulosa*, is said by Hooker to occur near Gosport; but we have not yet gathered it.

Myrica Gale. On Grange farm, near the sea. This plant has an agreeable odour. Virgil calls it *myrica humilis*. In some parts of Scotland, beds are made of the twigs, and "in Islay and Jura the inhabitants scent their clothes with the foliage."

Iris Pseudacorus. Grange.

Iris fetidissima. Said by Hooker to occur in Hampshire.

Neottia spiralis. Grass plots, Haslar hospital. This is the *Spiranthus autumnalis* of Richard, and is found in dry, hilly pastures, in various parts of England, in a chalky or gravelly soil.

Gymnadenia conopsea. Moist places; Grange farm.

Antirrhinum Orontium. Haslar lane; and several old walls in the neighbourhood.

Linaria cymbalaria. Old wall, Haslar burying ground.

Aquilegia vulgaris. Plantations; apparently indigenous.

Fumaria solida. Wickham Hants; but perhaps introduced.

Ilex aquifolium. Common. "We adorn our houses and churches at Christmas with the leaves and berries of this beautiful evergreen,—a relic, probably, of Druidism."

Ruscus aculeatus. At the back part of Grange farm.

Juncus glaucus. Swamps; Brown Down.

Eriophorum angustifolium, and *E. polystachion*. Marshy grounds; Grange.

Carex pendula. Ditches in moist fields, near Rowner copse.

Erythraea littoralis. This beautiful little plant occurs in considerable abundance on the common, near Haslar barracks.

Osmunda regalis. Grange farm, nearly opposite Osborn House.

Scolopendrium vulgare. Moist hedges near Anglesey, Gosport; but rather local. We have seen this handsome fern growing in great luxuriance in the Den of Auchmedden, near Banff, N. B.

Asplenium ruta muraria. Old walls, Haslar hospital.

Sanguisorba officinalis. Pastures between Forton and Hardway, Gosport.

Cynodon Dactylon. Sandy sea-shore, near Portsmouth.

Sison segetum. Mapledurham. Hants.

Epilobium angustifolium. Near Alton; but rare in Hants.

Daphne Mezereum. Near Andover; apparently indigenous.

Anthemis nobilis. Frequent in pastures near the sea.

Lavatera arborea. Hurst castle. This plant, if allowed to scatter its seeds in a garden, will spring up for many successive years, and the young plants will now and then survive one or more mild winters; but having once blossomed it perishes.

Cnicus eriophorus. Road sides; but very local.

Inula crithmoides. Hurst castle.

Solidago campestris. Near Basingstoke, Hants.

We give the following as occurring in Hampshire, on the authority of Sir W. J. Hooker. *Drosera anglica*, *Dianthus prolifer*, *Hypericum Androsenum*, *Lathyrus palustris*, *Orobis tuberosus*, var. β , New Forest, Hants.

Isnardia palustris. Said to be abundant in a bog on Petersfield Heath; also near Brockhurst, Hants.

Byronia dioica, *Eryngium maritimum*, *Pastinaca sativa*, *Campanula patula*, *Phyteuma orbiculare*, *Pulmonaria angustifolia*. New Forest.

Verbascum pulverulentum. This plant is said to be found in a den near Cullen, Banffshire; but it has doubtless been introduced from the Earl of Scafield's gardens, at Cullen House.

Melittis melissophyllum. Near Netley abbey; as well as in the New Forest.

Centunculus minimus, *Suæda fruticosa*, *Humulus lupulus*, *Anacharis Alsinastrum*, Leigh Park, near Havant.

Juncus diffusus, *Scirpus parvulus*. Said by Hooker to have been found a few years ago, "on a muddy flat, near Lymington; but the place having been lately much altered,—the very spot, perhaps, being now occupied by a swimming bath,—it has since been searched for in vain." It may yet be found in other parts of the county.

Polypogon Monspelienensis, *Agrostis setacea*, *Leersia oryzoides*. Brockhurst Bridge.*

I regret that I am, at present, unable to make the foregoing list more complete; but, such as it is, it may be of some service to botanists who may visit this part of the county. My best thanks are due to Mr. and Mrs. ARTHUR ADAMS, who have assisted me in its preparation, and with whom I have had the pleasure of visiting several of the stations indicated.

Royal Hospital, Haslar, 20th October, 1854.

"THE GOOD TIME COMING," COME AT LAST:—BEING NOTES ON RECENT RAMBLES AMIDST CLOUDS AND SUNSHINE.

BY WILLIAM KIDD, ESQ.

GET up, get up! Behold, the blushing morn
Upon her wings presents the god unshorn.
See how Aurora throws her fair
Fresh-quilted colours through the air!
Get up, sweet slug-a-bed, and see
The dew-bespangled herb and tree.
Each flower has wept, and how'd towards the east
Above an hour since,—and you not drest!
Nay, not so much as out of bed,
When all the birds have matins said,
And sung their thankful hymns!—HERRICK.

It is very usual for people when they meet, to talk of "the weather and the crops." That is an Englishman's standard dish. I go through the ordeal of listening to these dry, statistical facts of daily observation, with the resolution and patience of a martyr. To speak truth, however, the weather *has* been a legitimate subject of discourse for some months past; and speculation as to whether we ever should see Spring or Summer again, has been lawful. The crops have been mourned over, times out of number,—“all a dead failure!”—“a sad prospect for the poor!” &c., &c. This, and how much

* *Atriplex nidens*, has been found on the sea-shore, Isle of Wight, by Dr. Bromfield. I have not found it on this side of the Hampshire coast, but it is likely it may yet be met with. It is a large coarse plant, and some have supposed that, being introduced by accident, it is now only naturalized.

more? Oh, if we mortals had the management of the seasons, how nicely *we* should arrange these matters! We should have sunshine all the year round,—and pay the needful penalty, in the way of compensation, for our folly!! *Which* state of things is preferable? Poor human nature!

Well,—in spite of all our alarms, doubts, fears, misgivings, and sufferings, —sweet Spring *has* arrived, bringing lovely Summer in her train. So, Messieurs Gout, Bronchitis, Toothache, Headache, Heartache,—one and all, vanish! We have petted you too long; kept company with you till we are sick of your presence. Avaunt!

A month or two ago, I recorded an interesting little ramble of mine, through snow and frost. I was, as I told you, alone in my glory. I could not *ask* any fair friend to share with me the risk of a damp foot. That difficulty exists no longer. I have recently, in the company of a certain guardian angel, realised amidst clouds and sunshine, trees, flowers, and birds, pleasing scenes out of number, in which *both* could take an undivided interest. Man is "nothing" without his associate.

A long preamble this, to sylvan wanderings and strolls through Nature's garden! Many, however, will doubtless thank me for turning their minds into a pleasant channel, and reminding them that "the time of the singing of birds *is* come," with all its attendant loveliness. If we have no time to fraternise with Nature, we must *make* time. Rebellion against custom and fashion's laws becomes a duty. Well has the poet sung,—

"Talk not of want of leisure;
Believe me, time was made
For laughter, mirth, and pleasure,
Far more than toil or trade.
Yes, little short I hold
That social state from madness,
For daily bread when 's sold
Man's *natural right* to gladness."

Passing lightly over the early part of May—when fires were the rule, not the exception—let me speak of May 29th; aye, and of every day since. May 29th, was "Whit-Tuesday." The two previous days had ushered in torrents of rain. The earth, parched with drought, had drained, in feverish ecstacy, every drop to the dregs. The trees expanded their leaves to receive the blessing, and all Nature made merry. The holiday folk grumbled sadly at their disappointment; but *I* rejoiced exceedingly, as I lay tumbling on my pillow, big with expectation of what I knew awaited me in the vegetable kingdom. And how melodiously sweet were the early matins of the feathered choir! Sleep became irksome two hours after midnight. The birds had then begun *their* worship; and I tried to make one amongst them. Surely this morning sacrifice of adoration, love, and praise, *must be* acceptable to our all-wise and most beneficent Creator? I live happy in that belief, and I expect to die happy in it.

This sudden change in the weather, peculiar to the season, acted marvelously on the *physique* both of man and animals. Nature universally shared in the grand benefit. Everything flourished as if by magic. Flowers sprang up actively into life and beauty; insects multiplied by the million; the growing trees put forth their giant strength; and Nature vowed soon to be robed as became so lovely a Queen of Beauty. Has she not long since realised her vow? Assuredly yes! Oh, if pen, ink, and paper would but keep pace with my feelings, how I could dwell upon what I, and those dear to me, have already felt during the past fortnight! The melody of birds, the aroma of flowers, the happy gambols of innocent children, half-drowned in the sweet dew of buttercups, daisies, and cowslips,—the Cuckoo dodging us about everywhere with his joyous note of welcome; these, and other pleasingly-overwhelming delights, have revived in me, day after day, the feelings of childhood. My heart is younger than ever! Each hour seems to draw a nail from my coffin.

The morning of May 29th, found us in the splendid avenue of chesnuts, leading through Bushy Park to Hampton Court.* The day was one of those never-to-be-forgotten days of loveliness and beauty when silver clouds ever and anon conceal the sun, and prevent his being oppressively hot,—lending, at the same time, a most charming effect to the surrounding landscape. We had walked the entire distance; leisurely strolling, during the day, over some sixteen miles of ground. When I say that we beheld that grove of chesnuts in all their conceivable beauty of lovely apparel, I say all that can be *said*. But the reality! We had hit on the identical day when their glory was *perfect*. Two days' rain had brought them to their majesty. Oh, how I gazed on that vast assemblage of beauty, as each group of flowers, rising in majestic grandeur above its fellow, towered upwards to its lofty summit! A multitude of Deer lay basking beneath the shade of these gigantic trees. Rooks, too, had made them their summer retreat; and there were Thrushes, Blackbirds, and Starlings out of number. The *hearts* of my readers must here help me out. We had a most enjoyable day; and, but for prescribed limits, I could be amusingly discursive on the many interesting things we saw, and took a part in.

Whilst approaching that end of the avenue leading to the statue of Diana, in the centre of the ornamental basin, my self-control was lost. An unaccountable desire stole over me to *sing* (!); and a strain, dear to me in youth—dear to me now, was borne far upon the breeze:

"The sun his bright rays may withhold, Love,
Unreflected the moonbeam may be;
But ne'er till this bosom grows cold, Love,
Shall my heart beat for any but thee."

That I delivered this with amiable effect, I cannot for one moment doubt.

* This celebrated avenue exceeds a mile in length.

I noticed its effect on others. Her little Majesty—God bless her!—had *she* been passing, I could not have closed my throat. The music was in my heart, and it wanted vent. I gave it *con espressione*.

There was passing, at the time of my final effort, a wagon and a team of horses. On one of these, sat a smiling old weather-beaten labourer, who, whip in hand, and enjoying, evidently, the rays of sunshine reflected by the grass, thus saluted me: "Ah, master, this is a day! You CAN sing on a day like this,—CAN't you?" I impressively looked "yes!" to this simple, artless, honest question. And I am not quite sure whether I have not been *rather* proud of my vocal powers ever since!

But I must now take my leave. The season before us is so very grand; the temptations to wander in Nature's garden are so overpoweringly seductive; and the good to be derived therefrom is so undeniably great,—that I hope I have assisted in animating many a heart to go forth and judge for themselves. When we keep good company, *we* must be good also. I always shudder, when fashion resumes her despotic sway over those to whom, for a short season, she has bade adieu! Alas! she well knows when to calculate upon their return.

How soon what is really good passes away, when that which gave rise to a noble sentiment is beheld no longer! I wish I could have *my* way in this matter, and be allowed to hold forth, *vivâ voce*, for a few short hours, to those who prefer the shade of life to its substance. If they did not do as I said, they should, at all events, acknowledge, before parting, that my arguments were sound. And who knows whether a *percentage* might not be obtained? A single convert to Nature is surely worth a year of toil.

Before closing this despatch, let me for a single instant glance at the present grand aspect of the country. Our dear, good mother,—God bless her!—has been, for some days past, weeping. *Such* tears of joy has she let fall, that her children, one and all, have sympathised with her most lovingly. The hills rejoice; the valleys shout and sing. All things, everywhere, are lavishly plentiful and surpassingly lovely. The smiles and tears of Nature, during the last forty-eight hours, have made my heart fresher than a child's. May all your readers, then, join me feelingly in exclaiming,—“Glory be to THEE, O God!”

New Road, Hammersmith, June 16.

ORNITHOLOGICAL NOTES.

BY THE REV. R. PYE ALINGTON.

IN a former number of *THE NATURALIST* I had occasion to mention that my brother, Mr. Henry Alington Pye, of Louth, had enclosed from the sea a considerable portion of land, in the parish of North Summercoats. Trees, of course, grow but slowly upon it, probably from the quantity of salt still in the ground, but a few ashes have sprung up,—fifty or sixty; at present they are not thicker than a man's wrist, perhaps eighteen to twenty feet high. This year they were thinned out, the branches left on the ground. A pair of rooks were noticed busy at work; not being disturbed, they quickly ran up a nest. Day after day others continued to arrive, until every one of these small trees were hooded with a nest. So low are the trees, that, with a pole, every nest might be knocked down; and two were placed so near to the ground that a tall man might almost have put his hand into them; these two nests were destroyed by the other rooks.

Remembering the remarks of my nephew, (the Rev. W. W. Cooper, West Rasen,) in *THE NATURALIST*, in his article on the Rook, I went to examine this new and unexpected colony, and found, as I anticipated, every bird—“*birds of the last year* ;” that is, not one had the white skin which is so conspicuous at the base of the bill in older birds. What could have determined these youngsters so suddenly to fix upon this wild and solitary situation? No tree or rookery within miles; exposed to the cutting N. E. blasts which during *this* spring at least, have blown from the German Ocean! More favourable localities might surely have been found, nearer home. Could the material ready at hand have tempted them? Or rather may it not have been one of those wonderful interpositions of Providence, for good, of which we are having continual proofs? New land when first cropped, I believe, is peculiarly liable to the ravages of the Wire Worm; here, then, has been placed ready at hand, unexpectedly, a scourge and destroyer of that most terrible pest; who, in return for the destruction of a little grain, when other food fails, will in the end, prove, whatever man may say, that an invisible hand is ever stretched out for his protection. Let the indiscriminate destroyer of the Rook read the account given in Yarrell's *British Birds*, vol. ii. pp. 93-96.

Richard Thorold, Esq., of Weelsby House, in this county, had a few years ago two Emus sent to him, a present from Australia, by his nephew, A. Grant, Esq. Last year one of the birds laid some eggs, but deserting them, it was supposed that possibly the two birds might be of one sex; but this year the same bird has again laid, and when I last heard, was sitting “close,”—I believe that is the proper expression; should there be any result, I will write more particulars. In spite of the cold spring, she must have commenced to lay her eggs in March; the nest is placed at the bottom of a

ditch which surrounds the paddock in which they are kept. I understand that they have no extra warmth of shelter during the winter, only the open hovel into which they run to avoid a passing storm.

Monday, 16th April,—Saw a gray Crow; also a tortoise-shell Butterfly, and a Garden White. Tuesday, 17th April,—First Swallow. Saturday, 21st April,—Large flight of Fieldfares. Thursday, 3rd May,—Heavy falls of snow. Saturday, 5th May,—Self-registering thermometer showed during the night *ten degrees* of frost. Tuesday, 8th May,—Heavy hail and snow blasts. Monday, 14th May,—Heard first Cuckoo. Last year took the first orange-tip Butterfly on Wednesday, 12th April, then plentiful; this year,—saw the first on Saturday, (?) 19th May. I may also add that, though now the 21st of May, few of the hedges show much green; the horse-chesnuts are not out, and not many of the beeches show their leaves; and, from their appearance, the old ashes will not be in leaf until July.

Excuse this scrawl; if you can make any use of it, all well and good.—
Swinhope, near Great Grimsby, Lincolnshire,

May 21st, 1855.

Reviews.

The Natural History Review, published quarterly, including *The Transactions of all the Irish Natural History Societies; with Woodcuts and Lithographic Illustrations*. London: Highley. Edinburgh: Johnstone and Hunter. Dublin: Hodges and Smith. No. 6, April, 1855. Price 1s. 6d.

In a former issue, (Vol. iv. p. 241,) we recommended the two first numbers of the *Natural History Review* to our readers, as deserving every encouragement and support. The present number more than bears out the hope induced by the appearance of the earlier issues, and is full of most interesting matter. The Reports from the various Irish Natural History Societies are very full, and show that the publication of their proceedings is productive of much benefit to science, both in the actual addition of new members to our Fauna and Flora, and in the increased knowledge of the habits and localities which must result from varied observation. The present number is to be illustrated by four plates; but three of them not being completed, will appear in the next number. We regret that our space will not allow us, on this occasion, to make extracts, or give a summary of the contents. We will only say, that it deserves, and we trust will receive, ample encouragement; and will prove a very valuable addition to the library of any of our readers who can afford to purchase it.

Synopsis of the Edible Fishes at the Cape of Good Hope. By L. Pappe, M. D.
London: Algar and Street, 11, Clement-Lane. 8vo. p.p. 34. Price 1s.

In this little Essay, Dr. Pappe has, after a few pages of introductory remarks, scientifically described the various edible marine fishes, taken in Table Bay, False Bay, and on the coast of Hottentot Holland. Forty-five species are enumerated; but this list will probably be considerably extended, when attention, in the colony, is more generally turned to such a valuable national, as well as individual source of wealth, as the in-shore fisheries. The "Synopsis" contains much important and accurate information upon the various fishes at present used for food, and we trust may be only the precursor to a more extended work by the same author. Were such a work illustrated by good woodcuts, it would be doubly valuable. The following short extract, will show the nature of the information to be obtained from this "Synopsis." "11. *SARGUS CAPENSIS*. A. Smith. (Hottentot fish.) Body much resembling that of the former, but more attenuated at the base, and destitute of any bands or vertical stripes. Head, purplish; back, dull bluish-green, with a metallic gloss; sides, beneath the longitudinal line, silvery, with a reddish tinge; iris, white. Caught at all seasons with the hook; and is not only a superior table fish, but forms, when salted and dried, an article of exportation. Mostly confined to Table Bay and the west coast, where it is found abundantly. Length, from twelve to fourteen inches." We trust that a rapid sale of the present little Work, may induce the author to attempt the description and illustration of all the fishes taken at the Cape.

The Entomologist's Annual, for 1855; comprising *Notices of the New British Insects detected in 1854*. *Lepidoptera* by the Editor; *Hymenoptera* by Frederick Smith; *Coleoptera* by E. W. Janson. Edited by H. T. Stainton. Second edition, with considerable additions. London: Van Voorst, 1855. p.p. 153, one plate. Price 2s. 6d.

At page 91, of the present volume, we noticed the first edition of this little work, and cordially recommended it to our entomological correspondents. The present edition, in addition to the information contained in the first, contains an Address to Young Entomologists at our public and other Schools; and also some very useful and intelligible "Instructions in collecting and preserving *Lepidoptera* and *Coleoptera*." We shall be very glad to find that this second edition may rapidly change owners; and that Mr. Stainton may reap some little reward for the time and expense he must have been at, in bringing out this useful volume.

A Classified List of British Mosses; compiled from Wilson's "*Bryologia Britannica*." By George Dixon. Ayton, near Stokesley, Yorkshire. Sent post-free for three stamps; on thick paper for four stamps; or 100 copies free for 12s. 6d.

We have much pleasure in calling the attention of our readers to the above very useful and complete Catalogue of our British Mosses; it is in every way suitable for marking *desiderata* or *duplicates*, for transmission through the post, as well as for labelling collections. We gladly take this opportunity of mentioning, that the same gentleman has published classified lists, for similar purposes, on many branches of Natural History; such, for instance, as our marine, as well as land and fresh-water Shells, Algæ, Lichens, Hepaticæ, Reptiles, Ferns, Zoophytes, Grasses, &c. To any one requiring catalogues for labelling their collections, or other purposes, (and who, that reads THE NATURALIST, does not?) we cordially recommend Mr. Dixon's series of catalogues, as we know them to be most carefully compiled and arranged.

A List of the British Species of Geodephaga, for marking desiderata and labelling collections; taken from Mr. Dawson's Geodephaga Britannica. By G. Guyon. Richmond: Surrey. Post-free, for four stamps.

The objects of this List are manifest; and we have no doubt it will prove valuable to all our Coleopterists. The extensive changes and corrections made in the nomenclature and arrangement of the carnivorous ground Beetles, by Mr. Dawson, will lead to the re-arrangement of numerous collections of this tribe, and this List will be a valuable aid in making the change. Mr. Dawson is a very high authority in this branch of Natural History; and though the changes he has introduced are very extensive, we believe he has good grounds for making them. We have, for many years, collected coleoptera, and we readily confess, that Mr. Dawson's valuable work has cleared away many of our difficulties. The List is printed in good type, and on good paper; but owing to its being on both sides of the sheet, two copies must be cut up in labelling a collection. It would have been an advantage to have had some copies printed on only one side of the paper, as in "Curtis' Guide."

Miscellaneous Notices.

Note on the Rufous Warbler. (*Ædon galactodes*.)—In the "Zoologist," for November, 1854, p. 4511, there is a notice of the occurrence of this bird in Sussex, on the Downs, at Plumpton Bosthill, about six miles from Brighton. This note is unaccompanied by any description, and as the bird is quite new to the British Fauna, I send you the following, in the hope that it may prove interesting to your ornithological readers, and useful in determining the species, should it again be met with. Gen. *Ædon*, Boié.—Bill, thrush-like; the sides much compressed; tip, bent, entire; gape smooth; nostrils, oval. Tarsus, lengthened; feet, very strong; toes, short,—the inner shorter

than the outer; claws, slender. Wings, moderate,—slightly pointed. Tail, ample, rounded, composed of twelve feathers. Sp. *Ædon galactodes*, Temm. —*Male*: Irides? Bill, brown,—yellowish near the base and edges of the lower mandible; legs and feet, yellowish-brown. Above, bright reddish-gray; from the bill to the eye extends a brown band; superciliary stripe, white, slightly reddish; wings, bright brown,—the feathers edged and tipped with reddish; tail-feathers, bright chesnut, each with a large black spot near the end,—the outermost feathers on each side terminated with pure white, the others with reddish-white. Beneath, light isabella colour; sides of the neck, breast, and flanks, tinged with reddish. Length, $6\frac{1}{4}$ inches. *Female*: Not well known. Described as follows: Above, brown; rump and tail, chesnut; wing-feathers and two middle tail-feathers, cinereous; the spots at the extremity of the tail are wider, and of a blackish-brown colour. M. Temminck is not certain that the latter description does not belong to the young of the year. He states, that as the bird advances in age, the black spots of the tail diminish in size. This species is found in Greece and Egypt; it is very common in Andalusia, in mountainous valleys, where it builds in the Oleanders and in the clefts of rocks. Of its habits, very little is known; Mr. Swainson (Birds, II. p. 64) says, judging from the structure, that it is “evidently a walking bird.” The Sussex specimen was very wary, always flying to the further side of some furze-bushes, mounting into the air about fifteen yards. The flight is described as resembling that of the young Red-backed Shrike. The bird was a male, and would soon have moulted,—one or two new feathers of the primaries having made their appearance on each wing. It was procured by Mr. G. Swaysland, Naturalist, of Brighton, on the 16th of September, 1854. This species is figured in the “Planches Colorées,” 251, f. 1, by Werner, in the “Atlas des Oiseaux d’Europe,” and in Mr. Gould’s “Birds of Europe,” pl. 112.—JOHN CAVAFY, Westbourne Terrace, London, May 18th, 1855.

Ornithological occurrences in Norfolk.—The following birds have occurred in this county during the latter part of the past year:—*Marsh Harrier*. (*Circus æruginosus*.)—Killed at Narford in November. *Common Bittern*. (*Botaurus stellaris*.)—A male, in very fine plumage, killed on 6th Dec., at Great Cressingham, by the Rev. — Warner. *Pigmy Ourllew*. (*Tringa subarquata*.) and *Little Stint*. (*T. minuta*.)—I have a specimen of each of these birds, killed near Yarmouth, in September last. *Gray Phalarope*. (*Phalaropus lobatus*.)—Two specimens of this bird have come under my notice, both killed near Fakenham, at different periods during the past autumn. *Cormorant*. (*Phalacrocorax carbo*.)—Killed at Narford in November. *Gannet*. (*Sula alba*.)—An immature specimen, killed in Boderey-field in November. It made a violent attack upon a shepherd’s dog, and was killed by the sheep boy with a stick. *Richardson’s Skua*. (*Lestris Richardsonii*.)—Killed near Lynn in October. *Little Auk*. (*Mergulus alle*.)—Taken near Pentney in

November. A friend of mine, at Lynn, had one of these birds offered to him alive, for sale, about the same time.—T. SOUTHWELL, Fakenham, Norfolk, Jan. 1855.

Occurrence of Montagu's Sucker (*Liparis Montagu*) *at Banff*.—There was brought on shore here, a few days ago, by some of our fishermen, though unknown to them, a very fine specimen of the above little fish. It was found encased within the whorls of a water-worn portion of one of our "roaring buckies," *Fusus Antiquus*, which was picked up by my young friend Maggy, from where the fishermen clean their lines; and though it was several hours afterwards before it was discovered, and perhaps the greater part of a day out of its proper element, the sea, it was still alive; but on being put into a basin of fresh water, it did not long survive.—THOMAS EDWARD, Banff, Nov. 10th, 1854.

Sirex Gigas, *at Oxford*.—I obtained a specimen of *Sirex Gigas*, the other day, which was caught in a chemist's shop in Oxford. Opposite the shop there was some fir scaffolding, from which, possibly, it may have escaped.—J. F. WHITEAVES, Oxford, Oct. 31st, 1854.

Late appearance of the Peacock Butterfly. (*Vanessa Io*).—A specimen of the above Butterfly was seen, by a gentleman, flying in the south street of the city of Chichester, on Christmas-day morning, the weather was very dull, and cloudy.—UNCAS, Chichester, January 1st, 1855.

All of the Genus *Vanessa* are in the habit of hybernating, and may be brought out by any warm and sunny weather.—B. R. M.

Small Eggar.—Of the caterpillar of this moth, I have, in my time, taken a goodly number. To the inexperienced entomologist, they will prove a source of disappointment; for out of a brood, the first year, he will not perhaps rear half-a-dozen. But let him not despair, each succeeding year will bring them forth in larger or smaller numbers. I have had them appear the seventh year after entering into the pupa.

Papilio Machaon.—Last month, I had a number of chrysalides of this Butterfly; of these, four did not appear at the usual period, and at the present time are alive and still in the chrysalis; this probably is a provision of nature, to prevent the extinction of the species. This, however, is only a surmise, for during the twenty years in which I have had many hundreds of chrysalides, it never occurred to me before. All facts connected with the history of insects being interesting, I have sent the above, with the hope that it may prove interesting to those of your correspondents younger in the study of entomology than myself; and, if agreeable, I can, from time to time, send you much interesting matter regarding insects—their habits, &c.—J. THORNE.

Note on the treatment which Bees render to their wounded.—One day in the early part of last autumn, as I and two friends were engaged watching the movements of a community of Bees, busy working at their cells, our atten-

tion was directed towards an intruder, in the person of an audacious wasp, which no sooner had entered the forbidden precincts, than he commenced helping himself pretty freely to the good things, of which he found an ample store. His entrance was observed by many of the inmates, and it was evident an universal impression prevailed, that something unpleasant was the matter. This state of feeling was indicated by a louder buzz, which appeared also to assume a more angry tone. The thief, however, was allowed to indulge himself much longer than we had anticipated. At last the time came when it was, in a very unmistakable manner, intimated to him that he had no business there, and that he could no longer be suffered to pilfer with impunity. This was done by one of the bees, which made a vigorous onslaught at the head of the wasp, and I need hardly say the attack was replied to in equally as warm a manner, for

“They tug, they strain; down, down they go,”

and a fearful struggle ensued at the bottom of the hive. The combatants appeared to be very equally matched, so much so, that victory, for a time, seemed doubtful. At last the poor bee gave a convulsive shudder, and instantly the wasp disengaged himself and flew away, feeling, no doubt, pretty sure that he had given a fatal wound. With the exception of one solitary individual, the bees seemed to take no interest as to the result of the struggle. This one kept wheeling round the duellists, keeping, however, at a respectful distance; and whenever the circumstances of the fight threw the belligerents too near, he, like the “*Braves Belgae*,” on a certain 18th of June, decreased the danger by increasing the distance from it. No sooner was the battle over, than the bee that had witnessed it came to the poor wounded wretch that lay quivering on the well-contested field, to console him in his sufferings, we hoped, or to take him to some hospital cell, and there to administer to him some well merited comforts. But no, we were very much mistaken, there was no “*Scutari*” for this gallant patriot, that had so nobly fought for his queen and community. The bee most ruthlessly pushed the sufferer to the verge of the platform, then flew with him a few yards, and let him drop. We felt quite interested in the poor bee, and disappointed at the cruel treatment he had received. I picked him up, but he was so far gone, that he died in my hand in a few seconds afterwards.—J. P., February 7th, 1855.

Occurrence of an Owl, new to Britain, near Leeds.—We have just received from our valued friend, R. Hobson, Esq., M.D., of Leeds, notice of the occurrence, near Leeds, of a female specimen of the American Mottled Owl, *Audubon*. We hope to give the full particulars in our next.—B. R. M., June 18th, 1855.

The Querist.



On Grease in Insects.—I think it may be useful to many of your entomological readers to be furnished with a list of those moths (they are chiefly, it will be seen, *Bombyces*) which are most likely to "grease" in the cabinet. I would first observe, that "prevention is better than cure." The best way of all is, to take out the inside of the bodies before the moths are first set; of course, this must be done *very* carefully, so as not to injure the down upon the insect. It may be done as well just after the fly is dry, but there is then more danger of breaking the body off. A very fine penknife, or, still better, a pair of scissors, literally as sharp as a razor,—the best being furnished by surgical instrument makers,—will be found the best implement for the purpose. The mass of eggs in the bodies of the females of some sorts are a fruitful source of the evil,—turning, in time, into an oily substance. All other remedies are only temporary. This "goes to the root of the evil."

The PUSS MOTH, (very much.)

The DRINKER, (sometimes.)

The LARGE EGGER, (the males often.)

The HERALD, (often.)

The BUFF ERMINE, (sometimes.)

The GARDEN TIGER, (very often.)

The SMALL EGGER, (somewhat.)

The LARGE SWIFT, (the males very much.)

The GOAT MOTH, (very much.)

The BUFF TIP, (sometimes.)

The LARGE SWORD GRASS, (sometimes.)

The SWALLOW-TAILED MOTH, (very much.)

F. O. MORRIS.

On Grease in Insects.—I find the Spirits of Naptha one of the best remedies for removing greasy stains from the bodies of insects, and also for preventing the attacks of Mites in the cabinet; it being colourless, and soon evaporating, there is not the least danger of its injuring the specimens, or soiling the most delicate paper.—R. MARRIS, Lynn-Road, Wisbeach.

Removing Grease from Insects.—On reading the inquiry on this subject in the last number of THE NATURALIST, I was immediately reminded of an Article in The Mechanics' Magazine for December last, p. 531, "On the Products obtained from Coal," by Professor Grace Calvert, F. C. S., &c., in which he mentions a rectified and purified Naptha, called by an eminent French chemist, of the name of Pelouze, "Benzine." It appears to have great facility in removing spots of grease, wax, tar, and resin, from fabrics and wearing apparel, without injuring the texture, its colour, or leaving any permanent smell or mark. Benzine has, through Mr. Calvert's exertions, been introduced into England, and has been found most valuable in brightening velvets, satins, &c. This article appears to me well worthy of a trial, as it probably would remove the grease without injuring the specimens.—JOHN FOTHERGILL, M. R. C. S.

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It is requested that all Communications be addressed in future to B. R. MORRIS, M. D., 38, Fawcett-street, Bishopwearmouth, Durham.

NOTICES TO CORRESPONDENTS.

Communications have been received up to July 17th, from W. KIDD, Esq.—Rev. W. KENDALL.

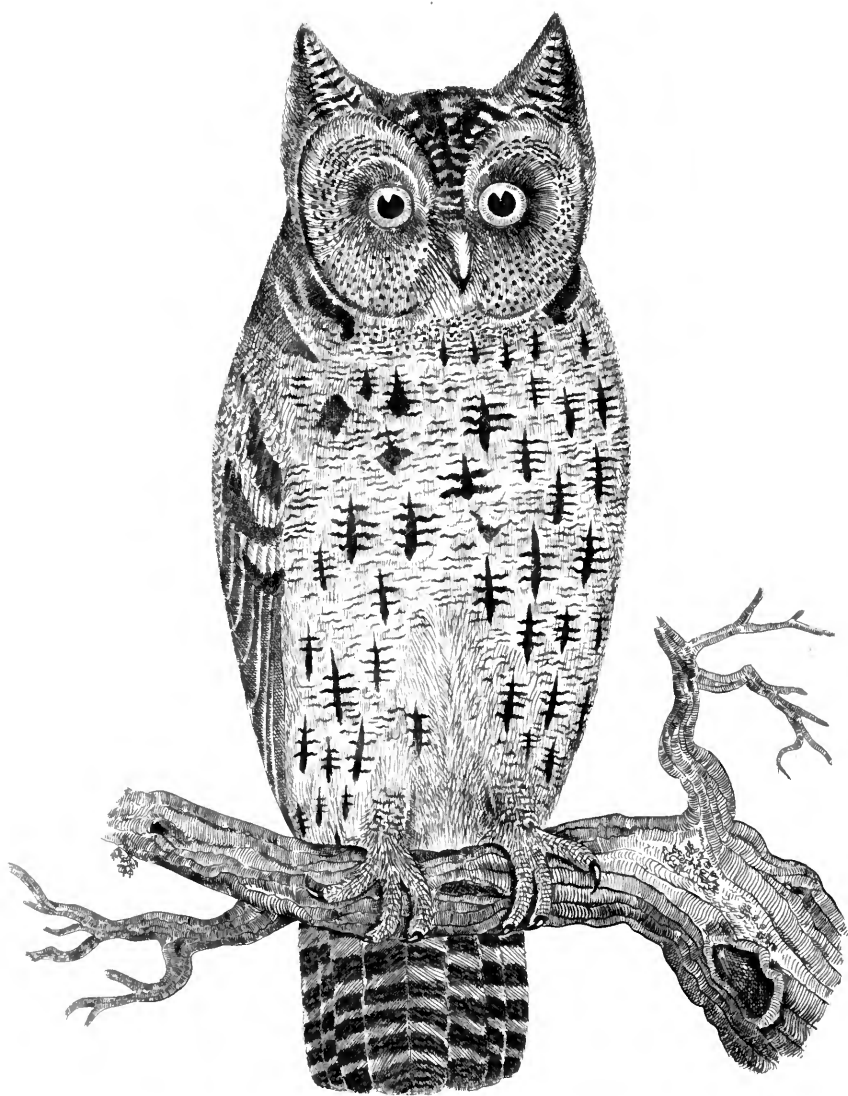
Contributions have been received up to July 17th, from R. HOBSON, Esq., M. D.—Mr. T. LISTER—G. DIXON, Esq.—W.—J. D.—G. B. CLARKE, Esq.

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Strix Asio

H Donny del et sculp^t

ON THE OCCURRENCE OF THE AMERICAN MOTTLED OWL,
(*STRIX ASIO*, Audubon,) NEAR LEEDS.

BY RICHARD HOBSON, ESQ., M.D.

IN accordance with your request, I at once set to work to endeavour to authenticate the fact of a "Mottled Owl" being killed in Yorkshire, which Owl is now in my possession.

The Owl in question is in its *grey* plumage; and was shot by Joseph Owen, who then did, and still continues to, reside at Kirkstall.* It was killed in the breeding season of 1852, in Hawksworth cover, the property of Lord Cardigan, half a mile above Kirkstall Abbey, on the banks of the river Aire, about four miles west of Leeds. At that period, there were a *pair* of owls; and, as far as Joseph Owen could judge by moonlight, they appeared to be similar in size, colour and flight. He at once saw that these birds differed materially from our common Screech Owl, and was therefore extremely anxious to secure them; and, having shot one, he went to their haunt, night after night, to obtain the remaining one; but this he unfortunately never could accomplish. Several other parties saw the remaining bird, and frequently called on Owen to desire him to go up to shoot it. From that period, however, it has not been seen.

Owen, ignorant of the value of his treasure, gave this Owl, in the flesh, to a bird-stuffer in Leeds, called Matthew Smith; who immediately put it up, under the impression that it was a "Scops-Eared Owl;" and, under the same error in judgment, and, I may add, *obstinate* conviction, sold it to me. On his delivering it at my house, there happened to be present two excellent ornithologists,—Mr. Denny, the talented Curator of the Leeds Philosophical Hall, and Mr. Graham, of York, far-famed in ornithological pursuits. The moment that Graham's keen eye caught a glimpse of the bird, he—in not a very conciliatory tone, I admit—cried out to the vendor, "That's not a Scops-Eared Owl;" when Mr. Smith, with still less of the *suaviter in modo*, replied, "But I say it is a Scops-Eared Owl." My good friend Mr. Waterton's words, which he had often expressed to me previously—"We bird-stuffers are a most pugnacious tribe"—were in vivid view; and I therefore appealed to Mr. Denny, who unhesitatingly pronounced it the "*Mottled Owl*." Mr. Smith, however, stuck with, if possible, increased pertinacity to his text; until I produced Catesby and Wilson, both having figured the Mottled Owl in its different plumage, but under different names; viz., the *Red*, and the *Mottled Owl*; when he then, after Hudibras's fashion—

"Convince a man against his will," &c.—

reluctantly yielded. Mr. Denny afterwards laid a Scops-Eared Owl on the

* I have had a letter from Owen's employer, Mr. Ambrose Butler, who says, "*Bartholomew Owen's having shot the bird.*"—R. H.



table; which, by comparison, at once settled the dispute beyond a shadow of doubt.

It appears, however, that Catesby and Wilson were in error, in describing and figuring the Little Common Screech and the Mottled Owl as distinct birds; Audubon having since clearly ascertained that they are the *same* bird, but in *different* plumage. On reference to Audubon's American Ornithological Biography, published 1831, at page 486, he says: "You are presented with three figures of this species, the better to show you the differences which exist between the young and the full-grown bird. The contrast of colouring in these different stages I have thought it necessary to exhibit, as the *Red Owl* of Wilson, and other naturalists, is merely the *young* of the bird called by the same authors the *Mottled Owl*; and which, in fact, is the adult of the species under consideration. The error committed by the author of the American Ornithology, for many years misled all subsequent students of nature: and the specific identity of the two birds which he had described as distinct under the above names, was first publicly maintained by my friend Charles Lucian Bonaparte; although the fact was long before known to many individuals with whom I was acquainted, as well as to myself.

"The flight of the Mottled Owl is smooth, rapid, protracted, and noiseless. It rises, at times, above the top branches of the highest of our forest trees, whilst in pursuit of large beetles; and at other times sails low and swiftly over the fields, or through the woods, in search of small birds, field-mice, and moles, from which it chiefly derives its subsistence.

"On alighting, which it does plumply, the Mottled Owl immediately bends its body, turns its head to look behind it, performs a curious nod, utters its notes, then shakes and plumes itself, and resumes its flight in search of prey. It now and then, while on wing, produces a *clicking* sound with its mandibles, but more frequently when perched near its mate or young. This, I have thought, is done by the bird to manifest its courage, and let the hearer know that it is not to be meddled with; although few birds of prey are more gentle when seized, as it will suffer a person to touch its feathers and caress it, without attempting to bite or strike with its talons, unless at intervals. I carried one of the young birds represented in the plate, in my coat-pocket, from Philadelphia to New York, travelling alternately by water and land. It remained generally quiet, fed from the hand, and never attempted to escape. The notes of this Owl are uttered in a tremulous, doleful manner, and somewhat resemble the chattering of the teeth of a person under the influence of extreme cold, although much louder. They are heard at a distance of several hundred yards, and by some people are thought to be of ominous import. The little fellow is generally found about farm-houses, orchards, and gardens. It alights on the roof, the fence, or the garden gate, and utters its mournful ditty at intervals for hours at a time, as

if it were in a state of great suffering; although this is far from being the case, the song of all birds being an indication of content and happiness.

"In a state of confinement. it continues to utter its notes with as much satisfaction as if at liberty. They are chiefly heard during the latter part of winter, that being the season of love, when the male bird is particularly attentive to the fair one which excites his tender emotions, and around which he flies and struts much in the manner of the Common Pigeon, adding numerous nods and bows, the sight of which is very amusing. The nest is placed in the bottom of the hollow trunk of a tree, often not a greater height than six or seven feet from the ground, at other times so high as from thirty to forty feet. It is composed of a few grasses and feathers. The eggs are four or five, of a nearly globular form, and pure white. If not disturbed, this species lays only one set of eggs in the season.

"The young remain in the nest until they are able to fly. At first they are covered with a downy substance, of a dull, yellowish white. By the middle of August they are fully feathered, and are then generally of the colour exhibited in the plate, although considerable differences exist between individuals: as I have seen some of a deep chocolate colour, and others nearly black. The feathers change their colours as the pairing season advances, and in the first spring the bird is in its perfect dress. The Mottled Owl rests or spends the day, either in a hole of some decayed tree, or in the thickest part of the evergreens, which are found so abundantly in the country, to which it usually resorts during the breeding season, as well as in the depth of winter."

In 1849, Audubon published in his *American Ornithological Biography*, vol. 5, page 392, additional interesting observations, fully confirming his information given to the ornithological department of science in 1831; and which, now that the Mottled Owl has been shot in Yorkshire, must be doubly interesting. Audubon says: "Although this species inhabits the Oregon Territory and the Columbia River district, where it was found by Dr. Townsend, it is not mentioned by Dr. Richardson as being observed in the Fur Countries. It is, however, met with abundantly in the British provinces of New Brunswick, Nova Scotia, Newfoundland, and Labrador, where I procured it. My friend Dr. Bachman says: 'There is no doubt about the correctness of the changes of plumage of this species, for I have seen it in its various stages from *red* to *grey*. I kept it more than a year in domestication, when it underwent all its changes. I have taken the *young red* birds from the nest, and the *old* in the same hole very *grey*.' The bird breeds in the red state the following spring, and does not become grey until two years old. Specimens have been procured partially red and grey, in the intermediate state."

The tufts on the head are composed of a longitudinal series of ten feathers; commencing over the middle of the eye, and extending a quarter of an inch

beyond its posterior edge. Thinking that many of the readers of the *NATURALIST* would be gratified by seeing the Owl figured, I have obtained the able assistance of Mr. Denny, who has marvellously brought out every feather. At a future period I may trouble you again, with a brief notice of some other rather rare birds, which have been shot in our district.

Leeds, July 6th, 1855.

STALKED-EYED CRUSTACEA OF BANFFSHIRE.

BY W.

LOCAL lists, however uninteresting they may be to the general reader, have great advantages. What observatories are to the meteorologist, local lists are to the natural historian. By them he is enabled to determine the zones of animals,—one of the most interesting subjects of Natural History. When there are added, carefully-made observations regarding the place of capture, the size, colour, &c., of the specimens, so much more is contributed to the knowledge regarding each species. Natural History is founded on the observation of facts; and, therefore, the more observers there are, the more ground has the philosopher to go upon in tracing the laws which regulate the animal kingdom. In this way, the observations of even the humblest individuals acquire an importance, and contribute to the advancement of science. Local lists may also have the effect of inducing others to turn their attention to the study of Natural History. When shewing any beautiful specimens, such, for instance, as *Cellipora cervicomus*, *Retepora Beaniana*, or *Goniaster equestris*, the usual remark is, "That's a foreign specimen." Curiosity is excited, and, in some cases, a desire of studying the subject is engendered; and, if it does not amount in others to a desire, it teaches them that they have not kept their eyes open; and even this is something gained. They are also of use to those engaged in the pursuit of Natural History. They serve as guides to them to look for such and such species within certain zones, and thus prevent a good deal of trouble and doubt to the young student. But to advocate the uses of such lists with the readers of *THE NATURALIST* seems to be useless. I shall therefore proceed, at once, to give a list of the Stalked-Eyed Crustacea of Banffshire, with the remark, that the following have been obtained in a short space of time, and within a rather limited range. All the specimens, with few exceptions, have been obtained by myself.

Long-legged Spider-Crab. (*Stenorynchus Phalanginm.*) Rather common; brought up by the fishing hooks.

Slender Spider-Crab. (*Stenorhynchus tenuirostris*.) This Crab has been found in the Frith, but I have not, as yet, been so fortunate as to obtain it in this locality.

Scorpion Spider-Crab. (*Inachus Dorsettensis*.) "Hairy Bamler." This is very common, both from the lines and from stomachs. Mr. Bell does not give their dimensions. I have got them, with the carapace one and quarter inch in length, with the first pair of legs four inches and a half. Sometimes they are taken absolutely hid by Sponge, Zoophytes, Ascidians, &c.

Slender-legged Spider-Crab. (*Inachus leptochirus*.) This extremely rare Crab has been found in this district, and also further up the Frith. A specimen is placed in the Banff museum.

Great Spider-Crab. (*Hyas araneus*.) This is found both on the fishing hooks and in stomachs; and its remains are often strewn along the beach.

Contracted Crab. (*Hyas coarctatus*.) Very common. It is chiefly got from deep water. In October, 1854, I put it in a basin of fresh water, when it exuded a quantity of roe; it was of a yellow colour. It is said, by Mr. Houlstone, to spawn in January. The species described as *Hyas serratus*, is also very abundant at all seasons; and usually all of them are about the same size.

Strawberry Crab. (*Eurynome aspera*.) I have got a single specimen of this beautiful Crab; it was taken from deep water, in the crevice of a stone. The length of the carapace is half an inch, exclusive of the rostrum. The colour is pale rose on the tubercles, while the other parts are of a grayish colour. Another small specimen has been got at Lossiemouth, Elgin.

Great Crab. (*Cancer pagurus*.) "Partin." Very common. It is used as an article of food by the people adjoining the sea-coast; but it can scarcely be said to be patronized by the inland inhabitants. They are commonly caught by old men and boys.

————— ? (*Pirimela denticulata*.) One specimen has been found by Mr. Edwards, and is now lodged in the Banff museum.

Common Shore-Crab. (*Carcinus Menas*.) The most common of all the crustacea. I have never seen this used as food, but as play-things for children.

Pennant's Swimming-Crab. (*Portumnus variegatus*.)

Velvet Swimming-Crab. (*Portunus puber*.) A good many of this species have been met with, brought up on fishermen's lines. A specimen, now before me, measures fully two inches in length, and two inches and three quarters in breadth.

Cleanser Swimming-Crab. (*Portunus depurator*.) This appears to be the most abundant of the swimming crabs.

Marbled Swimming-Crab. (*Portunus marmoreus*.) Rare. A specimen is in the Banff museum.

Livid Swimming-Crab. (*Portunus holsatus*.) On the 28th April, 1855, in my "diggings" in the stomachs of the fish that had been caught on that day, I

discovered one of these. At least, as far as I can judge, it agrees with the cut and description in Mr. Bell's Crustacea. The carapace measures about half an inch in length, and three-quarters in breadth.

Dwarf Swimming-Crab. (*Portunus pusillus*.) Rather common in stomachs.

Long-legged Swimming-Crab. (*Portunus lineppes*) On the same day, I obtained, from a stomach, a rather mutilated specimen of what appears to be "this truly Mediterranean species." From its being described as a "Mediterranean species," I was, for some time, in doubts, whether to give it a place in this northern locality; but after repeated examinations, and application of all my discriminating faculties, I have chosen to add it. The length of the carapace is seven-eighths of an inch, and its breadth is one and three-sixteenths of an inch. Its colour appears to have been brownish red above, and whitish or yellow below.

Henslow's Swimming-Crab. (*Polybius Henslowii*.) This is placed in the list on the authority of the fishermen. They say they get it very often swimming in the Herring nets, in pursuit of the Herring. When taken hold of, its "nip" is very sharp.

Common Pea Crab. (*Pinnotheres Pisum*.) "First made known, as a denizen of the Moray Frith, by Dr. Innes, Forbes.

Pennant's Ebalia. (*Ebalia Pennantii*.) This Crab has a charm in my eyes,—it is the first of my collection; and what enhances the value of it more is, that it was brought me by an old pupil, Andrew Wilson, who, with a few others, have procured for me some very fine and rare specimens. It is about five-eighths of an inch in length, and is of a dark brownish-red colour.

Bryer's Ebalia. (*Ebalia Bryerii*.) Very rare.

Cranch's Ebalia. (*Ebalia Cranchii*.) Not so rare.

Circular Crab. (*Atelecyclus heterdon*.) Common. It is always found in deep water. The other day, Andrew Peterson, another of my friends, turned out of a Cod's stomach the great number of twenty, almost all full-grown.

Northern Stone-Crab. (*Lithodes Maia*.) A good many of this fine Crab have been found. A specimen is in the Banff museum, got near Banff harbour. The Rev. Mr. Harris has obtained it at Gamrie. I have met with as good as six specimens; one before me measures in length three inches and a half. The fishermen say they commonly find them on "hard ground." I have also found them in stomachs;—rather harsh eating one would suppose.

(To be concluded in our next.)

ON THE FAUNA OF WOOL, NEAR WAREHAM, DORSET.

BY J. E. DANIEL, ESQ.

I FEAR it may appear presumptuous in one so ignorant of Natural History to attempt to give a description of the Fauna of a district ; but my object is, by drawing their attention to the subject, to induce others, who may be more scientific, to give their observations to the world. And it seems to me, that our mammalia are sadly neglected in comparison with other branches of animated Nature ; and from the unceasing persecution to which many are victims, especially among the larger species, it is to be feared that they may become extinct, even as that most interesting animal, the Beaver, (*Castor fiber Europæus*.) which was formerly an inhabitant of this island, as I believe it still is of the banks of the Rhine, Rhone, and Danube. As regards the genera "*Vespertilio*" and "*Rhinolophus*," I feel I have to apologize that my list is so meagre ; but they appear to have received but a small share of the attention which they so eminently deserve ; hitherto, I have only been able to procure specimens of the two which I shall mention ; as regards all the other animals, I have been careful to verify the facts before introducing them to the notice of your readers, and trust they will excuse all errors of omission and commission. In the arrangement and nomenclature, I have followed "Bell's British Quadrupeds," Van Voorst, 1837.

Great Bat. (*Vespertilio noctula*.) Not very common ; but during the evenings of the hot summer months, perhaps a dozen may be seen hawking about the bridge which spans the river.

Pipistrelle. (*V. pipistrella*.) This is very common, and is often brought to me, taken out of holes, &c. I was much amused, one evening, watching some hunting on the river ; in fact, I frequently saw them skim the water in their rapid flight.

Hedgehog. (*Erinaceus Europæus*.) Very abundant ; but unhappily every boy considers this inoffensive and useful beast to be a fair butt on which to exercise his inherent cruelty. Its food consisting almost entirely of slugs and insects, although occasionally indulging in a slight vegetable diet.

Mole, W. (*Talpa Europæa*.) I have seen bushes hung with dozens of their corpses ; and after the able articles in their defence, in THE NATURALIST, I need say no more in their favour ; but I will take this opportunity of stating, that at Frome, Somerset, I have seen many specimens of pure white, up to a dull, deep yellow.

Common Shrew. (*Sorex tetragonurus*.) Often found dead, as neither cats nor dogs will eat them, although most anxious to deal death to them. Do the carnivorous birds eat them ?

Water Shrew. (*Sorex fodiens*.) "This beautiful little creature," from the localities which it inhabits—the banks of ditches and slow rivers—and from its so readily and quietly gliding into the water, and there instantly diving

to the bottom, is often unnoticed; but there is little doubt it is very generally distributed. About here, it is not frequently seen gliding along the banks, which it seems to do, rather than run; and, upon the least disturbance, disappearing beneath the water. It is said to be quite common in the neighbourhood of Dorchester. It is most difficult to capture.

Badger. (*Meles taxus*.) Is now become extremely rare. I have only heard of two being in this neighbourhood for some time past; one was killed at Bindon last year, and the other a few weeks back. Their haunts may be easily known, as they are in the habit of turning up cow-dung in search of beetles and their larvæ. I always considered them both useful and harmless; but I have been told, by a keeper, that he knew one which devoured a whole nest of Pheasant's eggs, and replaced them by the unsavoury consequence of his meal. The haunches are eaten by the peasantry.

Common Otter. (*Lutra vulgaris*.) Dorset is, in many parts, abundantly watered by rivers and brooks, and these are well supplied with fish; and, as may be supposed, in a thinly peopled country, our friend is not unfrequently met with. But, alas! he never has any chance, it is always the trap which catches him. How would my namesake, of "rural sports" notoriety, have grieved at this.

Common Weasel. (*Mustela vulgaris*.) A pest to the henwife, and is far too abundant to be agreeable. They must be very prolific; for enormous numbers are annually killed, and yet they never seem to decrease.

Ermine Weasel, Stoat. (*Mustela erminea*.) Almost of as bad repute as its congener, *M. vulgaris*; but the beautiful change it undergoes, when it assumes its nival robe, creates an interest which is altogether wanting to our other carnivora. The white specimens are not unfrequent, and it has been noticed, that they are generally females.

Fitchet Weasel, Polecat, Foulmart. (*Mustela putorius*.) Now rarely to be met with. I can only hear of three having been killed lately about here; the last was a female, which had evidently recently had a litter of pups.

Ferret. (*Mustela furo*.) Occasionally taken in vermin traps; but supposed to have been lost, at some time, by poachers or rabbit catchers.

Common Martin, Martineat. (*Martes foina*.) This may be pronounced one of our rarest quadrupeds. One was killed about four years ago, on the estate of Jos Weld, Esq., Lulworth Castle; and another, on the estate of Sir John Smith, near Dorchester. I believe the skins of both were preserved, and are now in existence.

The Fox. (*Vulpes vulgaris*.) This mischievous fellow is not so frequently seen or heard of about here, as there are no hounds kept in the immediate neighbourhood, and the game is strictly preserved. So whenever Reynard's arrival becomes known, Mr. Keeper forthwith issues a number of insidious invitations, in the shape of a trap, baited with a nice young rabbit, that he may become more intimately acquainted with him; however, he is still far from being rare.

Squirrel. (*Sciurus vulgaris*.) This elegant little animal is very abundant; but they have sad enemies in the woodmen, who say they do a great deal of damage to the young trees, eating away the leading shoots. They never appear to form an article of food about here; but, in many parts of France, are reputed a great delicacy; and they are often to be seen exposed for sale, in great numbers, at the poulterer's shops in Hungerford and Leadenhall markets.

Dormouse. (*Myoxus avellanarius*.) Common; and does not appear to be the subject of such exterminating persecution as many other animals.

Harvest Mouse. (*Mus messorius*.) It seems extraordinary, that an animal so abundant and so injurious, should so long have escaped the observation of Naturalists, and that it should have been left to that acute observer, Gilbert White, to have introduced it into our Fauna. In old corn ricks it frequently appears more numerous than the common mouse; but one peculiarity I have observed, that dogs will catch but not eat them.

Long-tailed Field Mouse. (*Mus sylvaticus*.) Frequently met with in the woods, where they climb bushes and trees, in search of nuts, acorns, &c.

Common Mouse. (*Mus musculus*.) By far too frequent visitors to be considered desirable.

Black Rat. (*Mus rattus*.) Like the ancient Britons, whose remains are so abundant in this country, this animal has been nearly exterminated by the invader, the Norman or Brown Rat, (*M. decumanus*). I have heard of one being killed at, or near Wareham, but unfortunately cannot now recall who was my informant; it is not unfrequently met with at Bath.

The Brown Rat. (*Mus decumanus*.) No place and no substance seems tabooed to these destructive animals; whether in corn rick, hen roost, or turnip field, this, originally foreign importation, seems equally mischievous; and Beetle's Vermin Killer appears to them merely a pleasant stimulant.

Water Vole. (*Arvicola amphibia*.) Without having had an opportunity of personally examining specimens, I think it may be pronounced indigenous, from having seen it, or a similar animal, not unfrequently take to the water, diving and swimming, and remaining a considerable time.

Field Vole. (*Arvicola agrestis*.) The Rev. W. Kendall found a single dead specimen, in the road, a short distance from this village.

Common Hare. (*Lepus timidus*.) From their great abundance often injurious to both cereal and root crops, and often producing an abundant crop of Jail Birds.

Rabbit. (*Lepus cuniculus*.) In addition to the common gray variety, black is not an uncommon colour; more rarely, a pale, fulvous yellow; and in one warren, near East Lulworth, a blue, or slate-coloured variety.

Red Deer, (*Cervus elaphus*), is now extinct; but an extract from Coke's Survey of Dorsetshire, will show that, at a comparatively recent date, they were to be found. "At the first entrance into the island," (*i. e.* Purbeck.)

"lieth a large flatte of barren heathlie ground, (yet well replenished with Red Deere,) severed from the rest with almost a continual ridge of very high hills."

Fallow Deer. (*Cervus dama*.) In Charborough and other parks.

Porpoise. (*Phocæna communis*.) Living at some little distance from any seaport, I have not been able to obtain any information on which I could rely respecting the Cetacea; but the Porpoise is frequently sporting about on the coast, in large shoals. The flesh is seldom eaten in this neighbourhood, but is occasionally seen in the markets of Jersey and Guernsey; and in appearance, as I am also informed it is in taste, not unlike a loin of pork. But in the Channel Islands, the fishermen object to their being caught, or disturbed, as they drive the Sand Eels (*Ammodytes Lancea*) to the surface, which they collect in large canvas nets, or bags, and use for a bait for Congers, Cod, *et hoc genus omne*.

Dolphin, (*Delphinus delphis*.) has been taken on the coast, so I have heard it reported, but can give no particulars.

The Sheep. (*Ovis aries*.) Neither this, nor the horse, or dog, are to be considered as *Fere Naturæ*; but as there appear to be two breeds peculiar to this neighbourhood, I do not like closing this imperfect account of our Mammalia without noticing them. The Dorset, or as they are also called, horn and white faced sheep, are a large, hardy, horned sheep, which thrive upon the marine downs, and have the advantage of dropping their lambs from two to three months earlier than other breeds, so that they are in great request in many places as house lambs; their wool is long and coarse, and they are invariably allowed the primitive fashion of wearing their tails. Their fleece is not generally so heavy as that of Southdowns. The next variety is peculiar to the island of Portland; they are a very small race of sheep, weighing from thirty to forty pounds. The flesh of these animals is very highly esteemed, and commands a high price in Weymouth market; but if removed into a richer district, they are said to grow much larger, and to lose much of the peculiar flavour which renders them so acceptable to the epicurean palate.

The Horse. (*Equus caballus*.) Before agriculture had made such strides, and when our downs and heaths were unenclosed and uncultivated, (at least to a much greater extent than at present,) vast numbers of a small, but strong, useful, forest poney, were bred in the neighbourhood; but for the general purposes of the farmer a larger race are now used, and those of Shetland are more fashionable, so that now but few are seen.

I have now finished, and trust I have not quite worn out all your patience; and hope that this slight sketch may produce more from this and other neighbourhoods.

TO THE EDITOR OF THE NATURALIST.

SIR,—As a Member of the Nottingham Operative Entomological and Natural History Society, allow me to express the sincere gratification I feel in the perusal of your valuable journal; and perhaps a sketch of the rise and progress of the above Society may not be uninteresting to some of your readers.

Well, then; about two years ago, some six or seven of us, all working men, but lovers of Nature, agreed to form a society, and look into Nature's works. So we commenced by paying one shilling as entrance, and one penny per week subscription, for the purchase of works on Natural History; and as those works are expensive, we commenced by taking Morris' British Butterflies in parts. By the end of three months we could count fourteen members. So we worked on; and, thanks to perseverance, we have now more than thirty members, with rough hands, or, as the editor of the Entomologist's Annual has it, with fustian jackets. But he, with many writers on Natural History, does not sufficiently consider, that working men in general have not the education necessary for understanding the names, when they are all given in Latin, as is the case in the Entomologist's Annual, and many other works. Why not give the English name as well as the Latin one, if the work is intended for the English people? It would induce many a working man to become a lover of Nature, instead of a curse to the nation; for, what degrades a man so much as drink? And if he cannot find enjoyment in one way, he will in another. We have one member who has collected some thousands of specimens; and what does he say? Why, that if he had not been collecting, the public house would have been his lot; so that, if we only reform one, it is worth trying for. But it would not stop with one, nor fifty, if all naturalists were like Mr. Morris; we should not then have to complain of your jaw-breaking words; but I hope the time is coming when we shall have more English, and less Latin; the good effect would soon show itself. For instance;—we have had three or four that began to collect Beetles, and we had no work on the subject; we must have one; and after inquiry, we were recommended to purchase Stephen's British Beetles, which we did; but instead of that interesting style which Mr. Morris gave to his Butterflies, there is just the description, with the name in Latin; so that the book is almost useless to us, for the present. We have seventeen or eighteen collectors of Lepidoptera, and if you could recommend an introduction to Entomology, with the price, we should be very much obliged to you; I subjoin you a list of what we have got. Morris' British Butterflies, 1 vol.; Morris' British Birds, 3 vols.; Morris' Naturalist, 2 vols.; Stephen's British Beetles, 5 vols.; Westwood's British Moths, 2 vols.; Morris' British Eggs, 1 vol.; Dialogues in Entomology, 1 vol.; Entomologist's Annual, 1 vol. These comprise the whole of our books; and we have some £6. in the hands of the

Treasurer. But, you may say, you did not get all that by your penny subscription? To that I answer no; we have had two exhibitions; the first, at Christmas, 1853; the second, at Christmas, 1854. The exhibition consisted of 111 cases of Birds; one case of Butterflies, with their names to each,—in all, fifty-six species; forty cases, about two feet square, of Moths, Flies, Beetles, &c, in different designs, to form pictures; one case of Spiders; four of Beetles; three of Eggs; and a few animals; all belonging to the different members. To the scientific, we could not show much classification, having but one case of Flies for them; but it was not them, but the public, that we wanted to enlist; and if we had had all our collection of insects set out in proper classes, they would not have produced the effect that was produced by the pictures; although I admit that a proper classification is quite essential, and I hope by another year we shall have a cabinet, and all the insects classed that we are in possession of. By the two exhibitions we cleared some £9.; but it was not so much to make money, as to induce working men to join the society; and it has had the desired effect. And what recreation can be more healthy, or interesting, than the study of Nature? And if there is any means whereby the working man can be helped, let every one that can, come forward; and by that means there will be a reform in society: let cards and dominoes be exchanged for the net and insect box; the tap-room for the fields and meadows; and then see what a change will come over him. Nature has new charms; every step he takes, something more wonderful presents itself; and thus he becomes a child of Nature.

I should like to hear of working men in other towns forming Natural History Societies, and keeping up a correspondence with each other; and by these means we should be able to know what each could collect; for what is rare in one place is plentiful in another; so, by mutually exchanging with each other, we should then be able to form a very good collection at a very small cost,—for, as working men, we could not send out a collector, nor yet buy many at a time,—so that it would take a society a long time if they had to buy all the specimens they could not take themselves, either Birds or Insects; so that they must be like us, and begin with the *Pictures* first.

New Basford, near Nottingham, March 16th, 1855.

J. MORLEY.

It is with great pleasure we insert the above letter. We heartily wish every town in the country had a Natural History Society among its working men. We sincerely sympathize with Mr. Morley in his wish, that English names were more frequently added to descriptions of objects of Natural History; and the whole study simplified by using plain English, whenever practicable. We know of no case in which the *exclusive use* of Latin in scientific works is of any advantage; and, in thousands of instances, it is an effectual bar to the use of the volume; and where the book is, in itself, valuable, this is the more to be regretted.—B. R. M.

AN ORNITHOLOGICAL RARITY IN THE NORTH.

BY MR. THOS. EDWARD.

As was to have been expected, from the extraordinary severity of the season, we have been visited by many of the rarer wild-fowl; amongst which may be mentioned, as perhaps the rarest of all, the Spur-Winged Goose, (*Plectropterus Gambensis*), a specimen of which was shot in this neighbourhood, about the middle of last month.

If I were allowed to judge from its remarkably *lank*, lean appearance when skinned, which was wretched in the extreme, I should say that it had suffered very severely for want of food. Poor thing! it had perhaps come from a certain place where British soldiers are encamped, and where British knowledge and forethought have been so conspicuously exhibited to the eyes—the wondering eyes—of an ignorant world; a world far behind us Britons in the march of intellect. It, that is, the goose, appeared to me also,—from the fact that its upper parts were generally of a dark brownish green, and not black; and the under parts, though of a snowy whiteness, were nevertheless broken into here and there by feathers of a brownish tinge mixed with dull gray,—to have been rather a young bird, that is, one not quite matured. The back, however, though not altogether black, was most beautifully bronzed, and, as it were, burnished with a dark green; and reflected a most resplendent gloss, when viewed in the rays of the sun. The bill appeared to be,—or at least, to have been, for it was somewhat faded,—of dull, reddish orange. The legs and webs seemed to have been of a deep flesh-colour, the toes lighter. The spurs with which the wings were armed were pretty large and very conspicuous.

Dun-Birds (*Fuligula ferina*) and Widgeons (*Mareca Penelope*) have been rather plentiful along our sea-coast, for the last two months, or so; and many of them have fallen victims to the gunning part of the inhabitants. Many an old and rusty piece has been raked out of its hiding-place for that purpose, and to let its possessor have a rap at the rare *dukes*, Ducks. Guns which perhaps have not seen the light for fifty years, have this season been held in something like high estimation; though in many cases the *bare hand* was quite sufficient, and, in numerous instances, a short stick was all that was needed, to knock down the poor half—half, did I say? nay—all but starved animals.

If proof were wanting, of the length and severity of the frost and storm with which we have this winter been visited, the bare mention of the Ducks already named is of itself quite enough; for in ordinary seasons we never have them, except it may be at rare intervals, when a straggler may appear; and these are few, very few indeed, and very far between.

16, High-Street, Banff, March 1st, 1855.

AN AFTERNOON'S RAMBLE, OR LEISURE HOUR.

BY MR. J. O. HARPER.

THE following lines are penned with the anticipation of stimulating others (who have at their command, sometimes, a leisure hour) to ramble on the outskirts of our cities, and to observe for themselves what an extensive field is open to their view in the study of Nature's works; also, to show what can be accomplished in a few hours, by an attentive observer of that which is daily and hourly passing around them, and yet so little noticed; many hours—now, perhaps, unprofitably spent—if devoted to this interesting branch of science, would, I feel persuaded, ennoble the mind, and bring us in communion with the Creator and Giver of All.

Being a half-holiday with my son, we started on the 5th of this present month, at two o'clock, *en route* for Trowse and Lakenham, for the purpose of obtaining specimens of the finny tribe for his Aquaria, which are all the rage, at this period, in this ancient city,—from the little urchin, with his mother's pickle jar, to the adult specimen of the *genus homo*, and some very tasteful ones have been got up; more especially two, of large dimensions, adapted for fish and zoophytes, which have been recently added, by subscription, to our public museum, so rich in zoological specimens;—standing out prominently, is an extensive and valuable collection of the raptorial birds of Europe, liberally presented by J. H. Gurney, Esq., M. P.

Let us return to our ramble: Passing over the Eastern Union Railway, Sand Martins (which appeared here on the 20th of April) were soaring high on outstretched wings, now skimming with lightning speed in search of insect prey; for in this locality are two large gravel pits, one being situated at the back of my garden, where these birds annually congregate and bring forth their young. Many an hour, on a summer's evening, have I watched these, to me, interesting birds. Proceeding on our way, we arrived at the summit of Bracondale Hill; in the valley below, lies the pretty village of Trowse, with its neat church and clear running stream; midway between the hill and village, we entered a gate on the left, passing some Ivy-covered walls, once the support of the far-famed "Carrow Abbey;" then crossing the Eastern Counties Line, we arrived at Trowse Meadows. Commencing our search in the surrounding ditches, captured several specimens of the three and ten-spined Sticklebacks; (*Gasterosteus aculeatus*) et (*G. pungitiis*); the former were all males, rich in varied hues. Also, small specimens of (*Tinca vulgaris*), (*Anguilla acutirostris*), and (*Petromyzon fluviatilis*); these complete our capture of *Pisces*.

Mollusca were exceedingly abundant in the ditches. We dredged with a small net, and obtained the following:—*

* Should any of your correspondents require any of those mentioned, I shall be happy to forward them.

Localities near Norwich.

<i>Paludina vivipara</i> , male.	Not common.	Trowse and Heigham.
———— <i>achatina</i> , male.	Common.	Trowse, Lakenham, and Heigham.
<i>Bulimus obscurus</i> , male.	Uncommon	ditto.
<i>Limncus pereger</i> , male.	Common.	ditto.
———— <i>auricularius</i> , male.	Very fine, common.	ditto.
———— <i>stagnalis</i> , male.	Very fine, common.	Trowse and Heigham.
———— <i>palustris</i> , male.	Common.	ditto.
<i>Planorbis corneus</i> , male.	Very fine, not very common.	
		Trowse, Lakenham, and Heigham.
———— <i>carinatus</i> , male.	Rare.	Trowse.
———— <i>vortex</i> , male.	Uncommon.	Trowse and Lakenham.
———— <i>marginatus</i> , male.	Rather common.	Lakenham and Heigham.
———— <i>contortus</i> , male.	Uncommon.	Trowse and Lakenham.
<i>Cyclas cornea</i> , male.	Uncommon.	Trowse.
———— <i>calyculata</i> , male.	Uncommon.	Trowse and Lakenham.

Heard, for the first time this season, the well known note of the Willow-Wren, (*Sylvia trochilus*), which called to remembrance an incident well worthy of note, which occurred to myself and a brother naturalist, during a stroll on the 19th of May, 1849. Walking round Lakenham early in the morning, with Mr. M., who had recently adopted the study of ornithology; observing one of these birds, and requiring a specimen for his cabinet, he fired. "Down!" says he, but found himself in error; illustrating the old adage—"Many a slip between the cup and lip." The bird was wounded, and was coming down; when, to our great surprise, its mate flew from an adjoining tree to its rescue; taking the fractured wing between its mandibles, it actually assisted its wounded companion out of our reach. "What do you think of that?" was my exclamation. "Think!" said he,—"that I will never pull a trigger for the sake of gratifying a taste in collecting birds;" and I am convinced (would that there were more like him!) that he has kept his word. He has not given up this pleasing study; but is, if anything, more ardently attached to the feathered tribes; contenting himself with examining specimens gracing the cases of our museum, (accessible to non-subscribers every Monday,) and referring to the admirable plates of Morris's British Birds, now publishing.

Retracing our steps from the river, over the surface of which were skimming three species of the family Hirundinidæ,* I startled a Water-Vole. (*Arvicola amphibius*.) How gracefully he glides through the water! After obtaining a portion of weed evidently to his palate, he re-appeared upon the shore, apparently unconscious of my presence, or probably is not so suspicious an animal as the *Mus decumanus*; for, after filling his rather capacious

* Dates of their arrival this year: Swallow, (*H. rustica*), April 16th; Sand Martin, (*H. riparia*), April 20th; Window Martin, (*H. urbana*), May 1st.

stomach to his satisfaction, he commenced cleaning himself, after the fashion of the Long-Tailed Field-Mouse, (*Mus sylvaticus*,)* passing its fore feet quickly over its face and ears; evidently with the intention of removing any particles of mud, or weed, likely to have adhered in his recent dive. He was now joined by another, probably the female; for, after short conversation resembling a few short screams, (quite unintelligible to me,) they disappeared in the bank under my feet, to finish the discourse in their snug retreat.

After leaving the marshes, we crossed the high-road between Bracondale Hill and Trowse railway-gate, entering a narrow road-way called Martineau's Lane; a few minutes' walk brought us to the bottom of what is commonly called Long John's Hill, and the entrance to the village of Lakenham. Observed three criminals suspended in the air; of what had these poor, inoffensive, and useful Moles been guilty, to be thus strangled in this enlightened age? Requiring one for a skeleton, I embraced the opportunity, and removed them from the snare which had thus deprived them of that which the farmer could not give his "freend"—life. As exchange is no robbery, I left a card in one of the traps, upon which I had hastily scrawled the following words: "Misguided destroyer! take a word in season from one who has studied the structure and habits of this much persecuted and useful animal; in future, spare your friend."

Crossing Lakenham bridge, we entered upon some marshes situated at the back of the mill; saw only a fine specimen of the Common Pike, (*Esox lucius*,) but obtained similar specimens of Mollusca as those taken at Trowse. Rooks and Starlings were feeding in large flocks upon the marshes. Close upon this spot are several ancient Walnut-trees, in the holes of which Starlings have built their nests for several years; after much persuasion, with the promise of a few pence, I succeeded in getting a boy to ascend one of them. He described to me, that the holes in which the nests were placed looked downwards, and that the tree itself was exceedingly decayed; which accounted for the accumulation of what is commonly called touchwood at the base of the tree. Query: Had these birds made the holes, or merely enlarged them?

Returning home, we passed a pleasant retreat called Kensington Garden, which for a short period was appropriated to the exhibition of living animals and birds; and many excellent and rare specimens in zoology were collected. But, I am sorry to say, after being open to the public about eighteen months, it was closed; the proprietors finding, to their cost, it did not meet their anticipations. Leaving this once pleasant spot, we again crossed a branch of the Eastern Counties line, through a bye-lane, in which I picked up a specimen of the Bank-Vole. (*Arvicola pratensis*.) This animal is rather

* I have kept several of these diminutive and highly amusing animals; they not having that peculiar offensive scent, so characteristic a feature in the *Mus musculus*, and pied variety.

common is this locality; having had, for two years, several of them located in some grotto-work formed of stone, shells, and clay, situated in my garden. So far, our stroll was at an end, arriving at home at five o'clock.

Must now bring my rather lengthened "leisure hour" No. 1, to its termination, fearing I have already trespassed too long on the patience of your readers; but shall feel amply rewarded, if, by my humble endeavours, I am the instrument of inducing others to study Nature for themselves.

Ivy Cottage, Grove Place, May 14th, 1855.

NEW STATION FOR *LECANORA RUBRA*, Ach.,
(*LICHEN ULMI*, Swarts.)

BY GEO. DIXON, ESQ.

ANXIOUS to visit the oolitic formation of Yorkshire, hoping the limestone of that series would yield species of Lichens not to be met with on our Cleveland lias, or the basaltic dike that runs through it, I proceeded a few weeks ago, in company with my friend William Mudd, down Bilsdale, to the magnificent ruins of Rievaulx. We were both much disappointed in our expectations; for, as soon as the oolite came on, the paucity of species common on the lias was most striking, and we at once saw the superiority of our own district over the one we had now entered. However, we felt amply rewarded for our journey, by discerning on old Elm-trees, on the margin of the Rie, the elegant Lichen, *Lecanora rubra*. In all our correspondence and exchanges of specimens, it had not before come into our hand, from which we were led to conclude it was extremely local. As the figure in English Botany, t. 2218, is from a specimen found by Wm. Borrer, on the bark of old Elm-trees, near Greta Bridge, Yorkshire, and W. J. Hooker giving the same locality and authority, I forwarded the former gentleman a specimen, and received from him the following kind note:

"DEAR SIR,—I am glad to see *Lecanora rubra* from a new place. I have not a duplicate left of my own gathering, nor have I ever met with the species again, since I found it near Greta Bridge in 1810; unless some patches of *Thallus* without *Apothecia*, on Elms near Malvern. I cannot direct you to the one tree on which I saw it in 1810. I only know that it was in a hedge, near a footpath by which I was walking from the Inn at Greta Bridge, to the bridge over the Tees, by Eggleston Abbey. In a visit to Greta Bridge, a few years ago, I sought for the place in vain, not finding even the footpath.

"My other British specimens of this Lichen are, two morsels from Dickson, marked by him, '*Lichen marmoreus*, on wood,' and another morsel from Mr. Salwey 'on decayed moss, from Wigmore Castle, Herefordshire.'—I am, dear

Sir, your obliged Servant, W. BORRER. Henfield, June 16th, 1855. I thank you for the specimen."

My object for inserting this in the pages of THE NATURALIST, is not only to record the locality, but to ascertain whether it has been met with by any other botanists. If so, I shall be most happy to exchange specimens with them.

*Ayton, near Stokesley, Yorkshire,
6th Month, 20, 1855.*

Review.

People's Edition. KIDD'S TREATISES ON SONG-BIRDS. THE CANARY. By WILLIAM KIDD of Hammersmith. Editor of Kidd's Journal and Book of Nature. London: Groombridge. p.p. 26, with engravings, 1s.

Although we are no "bird fancier," yet loving to hear them in their native wildness; we have been greatly pleased with the little volume before us. Every point necessary for a bird's happiness and comfort under confinement is attended to, and pointedly touched upon with a master's hand. We only trust this little book may be taken as a manual by all those who are in the habit of keeping Canaries; and we are confident neither they nor their birds will ever have cause to regret it. The spirit of humanity and sound sense which pervades all the directions cannot be attended to without benefit to both masters, mistresses, and pets; and yet there is a vein of fun pervading the whole, which is infinitely amusing; "*tria juncta in uno*." As a specimen of humanity, sound sense, and fun, we quote the following:

"In order to 'pair' your birds properly, place my lady in one small cage, and my lord in another. Suspend them in the same room, one above the other; so that they may *hear* each other, without obtaining a personal view. Curiosity is now excited! Only act thus cruelly for one day. On the morrow, let the two cages be suspended opposite each other,—one on either side of the room. Turn the wires to the wall; and let only the circular hole *at the back of the cage* give the twain a 'bird's eye view' of each other. Thereupon, much fun will ensue. There will be such a stretching out of necks through these odd little peep-holes! Such honey-dew dropt from the lips of the lovers, as their eyes come into seductive contact! All day long, they will keep you in unceasing merriment. Courtships, we all know, *are* droll things. The little we *see* of them, tells us what they must be when no one but the actors are together. A-hem! On the third day, trifle with your prisoners no longer. Art now must give place to Nature. Turn the two cages close together for some half-dozen hours. A few 'chaste

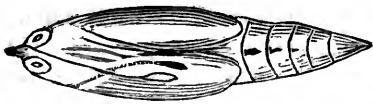
salutes' will be fired through the wires, as a matter of course; the question will be popped instantly; a consent will be warbled forth in a scarcely audible undertone; and your birds are—married, in the sight of God and man."

We have no room for further extracts, but we trust our readers will look for themselves, and we do not think they will be disappointed. Those who wish for a more extended work on the same subject, will purchase Mr. Kidd's larger book on the same subject, price 6s.

We are glad to see that Mr. Kidd is now occupied in writing on our various other Cage-Birds, in the pages of the "Family Economist," and commenced in the July number with the Sky-Lark.

Miscellaneous Notices.

Deformity of a Chrysalis of Pontia Brassicae.—I send you a drawing of a somewhat curious deformity or irregularity in the position of the antennæ in a chrysalis of *Pontia Brassicae*, should you think it worthy of notice.—C. G. LENNY, Ramsgate, May, 1855.



A Bat flying in Winter.—I was much pleased to see a Bat hawking about on the sunny side of Clement Fore-street, Ipswich, on a very cold day in January, 1854. I stood for some time watching it.—GEORGE KING, Ipswich, January 15th, 1855.

Curious Habit of Mice.—I heard, the other day, from a friend under whose observation the circumstance occurred, and upon whose veracity I can rely, that in a cellar, among other grocer's stores, was a quantity of black lead, done up in paper parcels, and which were for convenience placed on the floor. The employers were often surprised to see the papers broken and otherwise damaged, and could not imagine what in the world the Mice could be about, black lead being rank poison, till they caught some in traps; when, to their great astonishment, they found that they had rubbed themselves on the black-lead till their backs shone like a well polished grate. No doubt they would imagine, as do many of our "gents," who shine more by its than by their own merit, that black-lead added greatly to their appearance, and heightened their charms; and would also hope thereby to captivate more readily the unwary members of the female sex.—W. R. ROBERTSON, Dunbar, February 21st, 1855.

Do Squirrels suck Eggs?—I must confess, I hardly can make up my mind to believe they do; still, when one hears so many game-keepers say they do, it is apt to cause doubts upon the matter in one's own mind. I will relate

what was told me by a very respectable man, and one whose word I have no reason whatever to doubt; he is game-keeper to Sir Edward Bowater, of Sotterby Hall. One day last year, I observed to this keeper, what a quantity of Squirrels you have here. He said,—“Yes, Sir; they increases because master don’t face to like to have ’em killed; for my part, I wishes as how they were all dead, for they do a wonderful sight of harm in the egg time. Not long ago, (pointing to a good sized oak, covered with ivy,) on that werry tree, I saw two Thrushes in a wonderful taking with something that I could not at the time see; however, on looking more closely, I saw the nest, and something on the top of it, that kept moving; of course I thought it was one of them Jays, as is rayther given to suck eggs; so I fires into ye nest, and, to my surprise, down falls, not a Jay, but a Squirrel, with his mouth full of yelk. I calls that, Sir, stamming like being fond of eggs.”—J. F.—Frostenden, Feb. 23rd, 1855.

The Honey Buzzard. (*Pernis apivorus*.)—About three years ago, a fine specimen of this bird was caught in a vermin trap, in the woods, at Hawnes Park, Bedfordshire, and is now stuffed, and in possession of the owner of the property.—J. C. T., St. Peter’s College, Feb. 23rd, 1855.

Curious capture of a Peregrine Falcon. (*Falco peregrinus*.)—While walking, the other day, in St. Arthur’s Seat, in search of Botanical Specimens, I, to my great astonishment, found, among a debris of iron stones, &c., a dead specimen of that truly noble British Bird, the Peregrine Falcon. The specimen,—which was quite fresh, the appearance of the eyes indicating that it had only been dead for a day or two,—was in beautiful plumage, with the exception, that an almost *exactly similar* portion of the tip of each wing had been clipped off, but still quite insufficient to hinder the bird’s flight in the least. From this circumstance, I came to the conclusion, that the bird had either escaped from confinement, or that the tips of the wings had been taken off by shot. On skinning the specimen for preservation, I found some small shot under the skin; but they had evidently been there a long time, as they were all embedded in cysts. I have been induced to send you this communication in the hope, that some of the many readers of THE NATURALIST might be able to give a probable explanation of the occurrence of the specimen under the above peculiar circumstances.—A. C. MAINGAY, 16 Salisbury-street, Edinburgh, March 19th, 1855.

Curious fact in the Nesting of the Thrush. (*Turdus musicus*.)—Last year, at St. Peter’s College, Radley, a pair of Blackbirds (*Merula vulgaris*) built among the ivy, on the side of the chapel. Their nest happened to be placed near to the entrance; and the female, after she had laid four eggs,—being disturbed by the constant passing by, or by some one going to her nest,—forsook it. I took the eggs out of the nest, and was surprised, some time afterwards, when looking at the nest, to see a bird sitting on it; I perceived, on approaching, that it was a female Song Thrush; (*Turdus musicus*;) she

was sitting on five eggs, which she hatched, and I believe she brought up the young in safety. I never before met with an instance of a Thrush making use of a deserted nest of any other species.—I remain, &c., J. C. T., St. Peter's College, December 2nd, 1854.

Emberiza calcarata. (Tem.)—A fine specimen of this rare visitant was netted, at Postwick, on the banks of the Yare, January 19th, 1855. Its habits in confinement were very interesting. It exhibited little of the shy timidity which might have been expected from it, and soon became quite familiar and confidant. All its movements upon the ground bore a striking resemblance to those of our Skylark. I believe it was a male, and the last time I saw him, he was apparently in the enjoyment of excellent "health and spirits," with John Sayer, a bird-preserved, in Norwich, whose work in his avocation may fairly compete with that of the most renowned of his profession.

"*Owl's Crown*."—The plant provincially known by this name, in Norfolk, is the *Filago Germanica*, (Common Filago,)—via Hooker and Arnott's B. Flora, p. 233. This plant is quite a pest to the agriculturist in many parts of this country, where the land is "light." The French graphically term it "*L'herbe impie*," for an obvious reason, when the arrangement of flowers is considered.

I have seen both *Diatomacea* and *Desmidea* very easily separated from mud, by placing the gathering in a flat vessel, with about an inch of water, and they will in a very short time rise to the surface, and may be swept off with a camel's hair pencil. The latter should be placed in a strong light, or in the sun, and in the course of an hour or two, will not only have risen, but be drawn up upon the sides of the vessel, by the evaporation.

My own limited experience, and inquiry of naturalist friends, have led me to agree with Mr. Fox, in his opinion as to Thrushes feeding upon the backs of Sheep. I have not unfrequently observed young Starlings so engaged, at a time when their plumage is so similar to that of the Thrush that at a little distance, they might very easily be mistaken for the latter bird.—R. D., Guestwick, Feb. 17th, 1855.

Variety of the Corn Bunting. (*Emberiza miliaria*.) I have the pleasure of communicating to you the occurrence, in this neighbourhood, of a very beautiful variety of the Corn Bunting. (*Emberiza miliaria*.) The bird, which I shot on an adjoining farm, about ten days ago, is of a fine primrose color, slightly mottled with brown on the head and ear coverts. The feathers on the breast have their shafts of a dark brown, which, contrasted with the prevailing hue, present an elegant series of streaks. The under-tail coverts are shaded from yellow to pure white; while the tail itself is also white, with the exception of two of the outer feathers, which are of the natural colour, irregularly edged or tipped with white. As a whole, the specimen is strikingly pretty; and being in very sound condition, it has a very handsome appearance.—H. A. RANNIE, Boyndie, Banff.

The Mountain Finch. (*Fringilla montifringilla*.) I have received upwards of three dozen of these birds, this winter, which are far from being uncommon in this neighbourhood, some occurring every year; I never, however, knew them so plentiful as this season.—T. C., Luton, Bedfordshire, January 28th, 1855.

The Hawfinch. (*Coccothraustes vulgaris*.)—Six Hawfinches have come under my notice, within a week. Five of them were in company with Fieldfares.—*Idem*.

The Hawfinch. (*Coccothraustes vulgaris*.)—On Friday last, three fine specimens of the Hawfinch (*Coccothraustes vulgaris*) were obtained in this neighbourhood, driven here, no doubt, by the cold weather.—JOHN W. ECCLES, Medstead, Alton, Hants, Feb. 13th, 1855.

The Hawfinch.—The Hawfinch is frequently found in the grounds at Hawnes Park, Bedfordshire. I have one specimen that was shot there last December, and I saw several others at the same time. There are generally three or four there every year; but I have not yet discovered whether they breed there or not.—J. C. T., St. Peter's College, Feb. 23rd, 1855.

Anecdote of a Sparrow hawking for Moths.—As I was walking once on a high steep bank, covered with bushes, near our town, beating with a stick for Moths; a large Moth flew out, and was immediately pursued by a Sparrow, and captured. It, however, escaped from its enemy, and at once flew off, pursued by the Sparrow for a long way. The Sparrow was, however, obliged to give up the chase, and returned to his old post.—GEORGE KING, Ipswich, Jan. 15th, 1855.

The Dartford Warbler. (*Melizophilus Provincialis*.)—This very beautiful and elegant little Warbler is not, so far as I am aware, generally known to be an inhabitant of this county, although recorded as found in Devon and Cornwall; and I have now the high gratification of saying, that I this day found a specimen frozen to death near this place. I also have several times seen a bird which I considered to be this species; and Mr. Octavius P. Cambridge, of Bloxworth House, informs me, that it frequents and breeds on Bloxworth Heath; and he has specimens of the bird, nest, and eggs, in his museum, obtained from that place. It is a very delicate bird, and suffers much from frost. —JNO. E. DANIEL, Wool, near Wareham, Dorset, Feb. 14th, 1855.

Arrival of the Cuckoo (*Cuculus canorus*) *at Ipswich, in 1854*—When out on the 16th of April, 1854, I saw a Cuckoo flying westward from the sea; and returning homewards a few hours afterwards, I observed several Cuckoos settled on a large tree. I thought it very early.—GEORGE KING, Ipswich, January 15th, 1855.

Little Ringed Plover (*Charadrius minor*) *near Lewes*.—My brother and self succeeded in obtaining several specimens of the Little Ringed Plover, (*Charadrius minor*), and also a very good specimen of the female Smew, (*Mergus*

albellus,) along the sea coast between Cuckmere Haven and Seaford, on Friday last.—G. GRANTHAM, Barcome Place, Lewes, February 19th, 1855.

Birds near Oxford.—The following birds have lately been obtained near this city. The Hawfinch, (*Coccothraustes vulgaris*,) near Eusham. The Bittern, (*Ardea stellaris*,) shot near Iffley. And the Goosander, (*Mergus merganser*,) shot on Pork meadow, near Oxford.—J. F. WHITEAVES, Oxford, February 28th, 1855.

A fine specimen of the Bittern (*Botaurus stellaris*) was shot at Earith, Huntingdonshire, on the 18th of January last. It measured forty-three inches from the tip of the beak to the extremity of the claws, and forty-one inches from wing to wing. It was stuffed by Mr. Baker, naturalist, Cambridge, in whose possession I saw three other specimens of the same bird, shot about the same time at Dersingham Heath, near Lynn, Norfolk — THOMAS GEORGE BONNEY, St. John's Coll., Cambridge.

Note on the Canada Goose, (*Anser Canadensis*).—In the month of September, a few years since, when with a friend on the banks of the Laira, in pursuit of Yellow Wagtails, our attention was attracted to a large bird, at an immense height in the air; and which I suspected, from its manner of flight, to be a goose of some kind. After making several extensive circles, it came down and settled on the river. We immediately hired a boat, to go in pursuit; but, before putting off, I reminded my friend that he had only very small shot in his gun. However, not having any other with him, he was obliged to go afloat, charged as he was. On approaching the bird, we found it to be a "Cravat, or Canada Goose;" and when at the distance of about eighty yards, it got up and flew towards the head of the river, then turned and came down within forty yards of the boat. My friend took a deliberate aim and fired; but the Goose did not even flinch, or seem to take the slightest notice of the discharge. But after having proceeded about half a mile, it appeared to fly rather on one side, and soon dropped into the water. We again gave chase; and, on nearing the bird, instead of its attempting to rise, it made the best of its way towards the shore by swimming; and, on reaching the bank, we were astonished to find, that *its wing was broken short off close to the body*. On observing this, my friend jumped on shore, seized the Goose by the neck, and thus secured his prize, without having occasion to fire a second shot. From the great height the bird flew, and the perfect state of its plumage and feet, I feel confident that it had never been in confinement.—J. GATCOMBE, Plymouth, Dec. 29th, 1854.

Sirex Gigas at Luton.—I beg to inform you of my recent capture of a good specimen of the injurious insect, *Sirex Gigas*, of which I saw a short account in THE NATURALIST for July, 1854. I took the insect in the yard adjoining our house; it measured two inches from head to tail, and about two inches and a half across the wings. I can now give Luton as a new locality for this insect.—Park-Street, Luton, June 26th, 1855.

Depôt for the Sale of Natural History Apparatus, &c.—I believe I some time since suggested in THE NATURALIST, how desirable it would be to have some central place as a depôt in London, for the sale of the various apparatus required by Entomologists, Conchologists, &c.; and I have much pleasure in informing your readers, that Mr. Charlesworth, curator of the York Museum, has now established this desideratum at the following address: "Mr. Robert Burch, agent, 30 Tavistock-Street, Covent Garden, London." He has already supplied him with Naturalists' postage boxes of various sizes, from two shillings per dozen; corked ones for insects; and others lined with lint for eggs; also, circular glass-topped boxes, for collections of eggs, shells, seeds, &c., from one shilling to four shillings per dozen; marine shell dredges, twenty-four shillings each; insect pocket collecting boxes; botanical boxes; geological hammers, Naturalists' packing boxes, &c., &c. He means, also, to supply him with a stock of butterfly nets, store boxes; and, ultimately, cabinets; and these last, I hope, by my recommendation, with the names already put in, for the convenience of beginners; who, otherwise might not know how much or how little space to leave for various kinds.—F. O. MORRIS, Nunburnholme Rectory, York, Feb. 6, 1855

The Querist.



Can your correspondent, John Daniel, Esq., be correct in his supposition, (*vide* p. 13,) that *Lophodium rigidum*, Newn. (*Lastrea*, Presl.) grows "in a damp boggy meadow, on Woolbridge Farm?" The plant grows "on limestone rocks in mountainous districts," (*vide* Newman's British Ferns, third edition, p. 178,) and has only been clearly ascertained to occur in three of the counties of the north of England, viz., Westmoreland, Yorkshire, and Lancashire; consequently, it is very unlikely to occur under the conditions specified.—JOHN H. DAVIES, Thirsk, Jan. 18th, 1855.

ALFRED LUCAS would feel very much obliged if anyone could refer him to a good work on Coleopterous Insects, with plates, which would be preferred coloured.—Park-Street, Luton, June 26th, 1855.

Answer to Question about Swanneries.—There are a considerable number of Swans on the Trent, near Rugeley, Staffordshire.—THOMAS GEORGE BONNEY, St. John's Coll. Cambridge.

We should feel greatly obliged to any correspondent who could favour us with specimens of any Infusorial Earths, mounted or unmounted. We would endeavour to make the best return in our power.—B. R. M.

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Hon. Mem. Dublin Nat. Hist. Soc., Mem. Geolog. Soc. Edinb., etc.

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present a single work upon this interesting tribe of plants within the reach of the Fern cultivators; such works as the "Icones Filicum" of Hooker and Greville, are too expensive for the majority of gardeners; whereas the present book, from its reasonable price, will make it accessible to all, whilst its attractions will render it an ornament to the drawing-room table.

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It is requested that all Communications be addressed in future to B. R. MORRIS, M. D., 38, Fawcett-street, Bishopwearmouth, Durham.

NOTICES TO CORRESPONDENTS.

Communications have been received up to August 15th, from O. S. ROUND, Esq.—T. P. FERNIE, Esq.—W. KIDD, Esq.—Mr. T. EDWARD—Mr. J. B. WATERS—J. GATHERER, Esq.—Rev. W. KENDALL—S. STONE, Esq.—H. T. STAINTON, Esq.—C. FRYER, Esq.

Contributions have been received up to August 15th, from C. FRYER, Esq.—Mr. T. BEDLINGTON—J. Mc INTOSH, Esq.—R. HOBSON, Esq., M. D.—J. J. BRIGGS, Esq.—J. CA-
VAFY, Esq.

RECEIVED: The Bee-Keeper's Manual, by Henry Taylor. *Fifth Edition.* Illustrated by a Hundred Engravings. London: Groombridge and Sons. 1855. Pp. 216.

Infusorial Earths.—Dr. Morris would feel greatly obliged to any one who would favour him with specimens of any Infusorial Earths, mounted or unmounted; and would endeavour to make the best return in his power.

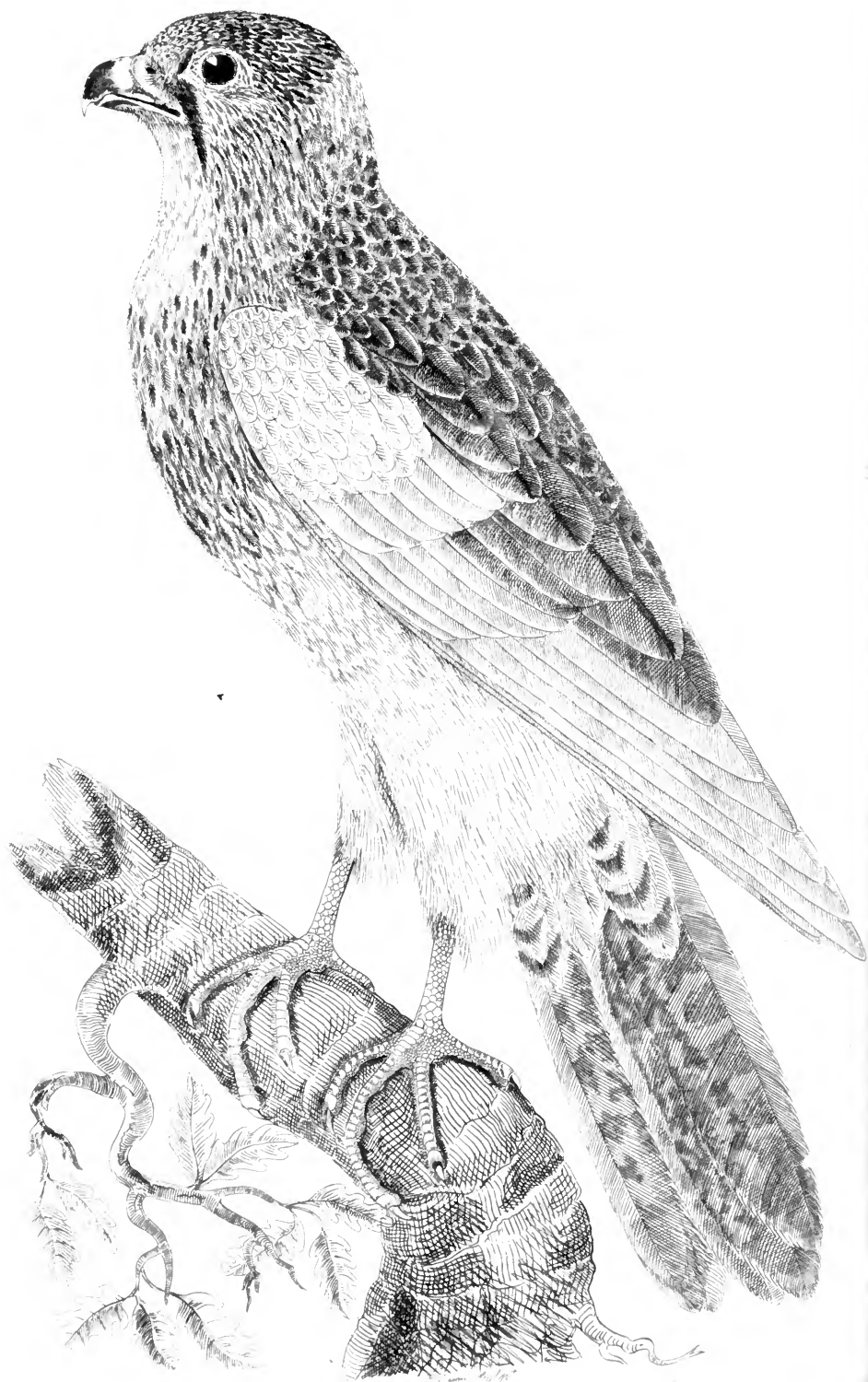
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DESCRIPTION OF A HAWK SHOT IN 1831, ON THE CHEVET
PARK ESTATE, BY WILLIAM BEVERS, KEEPER TO THE LATE
SIR THOMAS PILKINGTON.

BY RICHARD HOBSON, ESQ., M.D., CANTAB.

Its general contour is that of a Merlin or Hobby, with the exception of its head, which is neither so broad nor so round. Its *upper mandible* is three-quarters of an inch long; *cere* orange; *point* incurvated, and a horny white; space between cere and point a dusky black; and immediately behind the point there is a distinct dentate process. *Nostrils* elliptical in form, and oblique in position; being about one-eighth of an inch in length.

The under *edge* of the upper mandible; from the angle of the mouth to the point, is three-quarters of an inch; that half extending from the angle being orange, and the remaining half a horny white. Distance between the eyes eleven-sixteenths; between the nostrils three-sixteenths; across the lower mandible, from angle to angle at its base, eleven-sixteenths.

The *frontal* and *vertical* regions are obscure rufous; each feather having a dark brown streak down its centre, with a rufous margin laterally, and tipped with rufous.

On the *occiput* there is a whitish patch, extending longitudinally three-quarters of an inch, and somewhat more transversely. Some of the feathers forming this patch are perfectly white, whilst others are streaked down the centre, and some tipped with brown and rufous. From each side of this white patch, towards its base, there is a trifling extension of grey right and left, towards the lateral portions of the neck.

The *gular* and *jugal* portions of the anterior part of the neck are perfectly white. The *lore* is covered by a black *moustach*, half an inch long, and curving up under the eye. Its width is about three-sixteenths of an inch. From its upper extreme point, on each side of the head, grow black bristly plumelets, thinly covering the cere, and extending towards the basal termination of the dorsal line of the upper mandible; but they do not grow on the dorsal line itself.

The *eyelashes* are black; the supra and infra ocular spaces being thinly covered with short bristly plumelets, some black, and others white, on an orange ground, which gives rather a predominating orange hue to these spaces. The ear coverts are dark rufous. The posterior portion of the neck *inferiorly* is dark rufous, *laterally* it is pale rufous, but tipped at the base, and each feather streaked down the centre with dark brown.

The entire *thorax* is rufous, each feather having a black brown streak down its centre to the very tip, and the remaining portions of these feathers altogether rufous. From thence to the under tail coverts, the feathers are perfectly white. The *tibial* feathers, extending over the tarsi, are all white, excepting a rufous tint at their extremities on *one* side only.



The short white feathers, growing anteriorly and laterally on the upper portions of the tarsi, are also a pure white.

The *under tail coverts* are four in number on each side; each of the three lower feathers having two dusky bars, the lower bar very broad, and the upper one narrow. The remaining upper feather has only one narrow bar. The shafts of all partake of the same colour for the width of the bar, but they are white above and below.

The *tail* is five inches long; and its general colour, on its *upper* surface, is cinereous; the *two outer* feathers having four pale rufous bars, the longest bar not being so distinct as the other three.

The *second* outer feathers have five bars, but they are imperfect. On the *outer* web, the four upper incomplete bars are in union with the shaft, but the fifth is not so; none of these, however, occupy more than one-half of the web transversely.

The remaining *eight* feathers have each five bars, but are less distinct than those already described; and the two centre ones are much less so.

On the *upper* surface of the tail, the *shafts* are brown; but they become gradually more pale towards the tip, and are entirely white on the *under* surface.

The *two outer* tail feathers are an inch shorter than the centre ones. The *two second* are half an inch shorter; the remaining *eight* are equal in length. The *tip* of each tail feather, for a quarter of an inch, is cinereous; thence to the first bar, the feather is of a dark colour.

The general colour on the under surface of the tail is cinereous, patched with pale rufous. The bars are less distinct than on the upper surface, and the upper portion of the outer webs of the two outer feathers are white, but gradually increase to cinereous towards their tips. The *dorsal* feathers generally are cinereous, and triflingly tinted with rufous on their tips. The wings are an inch and an eighth shorter than the tail. From the anterior bend of the wing to its tip, the length is 7½ in. The length from the point of the upper mandible to the tip of the tail, is 10½ in.

The *upper tail coverts* are speckled with cinereous and pale rufous, having a dark brown longitudinal central stripe. Covering the coverts on each side is a single *white* feather.

The whole of the *primaries* and nine of the *secondaries* in the wing, are a pure white. The remaining number of the *secondaries* are cinereous, tipped with rufous. The first quill feather has an abrupt notch on the inner web, about an inch and a half from the tip. The *second* quill is gradually narrowed downwards on its outer web, commencing to diminish in width two inches and a half from its tip, and has an abrupt notch on its inner web, an inch and a quarter from its tip. The *third* quill begins to narrow two inches and a half from the tip on its outer web, and its diminution in width is very gradual.

The *fourth* is slightly narrowed on its outer web, about an inch from the tip.

The *first* quill feather is three quarters of an inch shorter than the *second*, and the *second* is a quarter of an inch shorter than the *third*, whilst the *second* and *fourth* are equal.

The *tarsi* and *toes* are a pale yellow; the *claws* a very pale horn colour, and very short, small, and triflingly incurvated. The *tarsi* are an inch and three eighths long, and a good deal compressed posteriorly. On the inferior and anterior portion of the *tarsus*, extending upwards from its junction with the third toe, there are six scutella, the *lowest* being large.

The *first toe* is three quarters of an inch long, and has eight scutella.

The *second* one and three-sixteenths, and has ten scutella.

The *third* one and three-eighths of an inch, with twenty-two scutella.

The *fourth* is an inch, and has twelve scutella.

The third and fourth, at their base, are connected by a web three-sixteenths of an inch in width; viz., from the posterior angle at the junction of the toes, to the anterior margin of the web. This web extends *narrowly* a short distance along the internal edge of the third toe, terminating at the joint.

This Hawk, which I have now described, and which is in my possession, is either a variety of some of our British Hawks, or a new species in the United Kingdom.

Varieties in *plumage* are not very unusual in many of our British Birds, but so strange a variation as the present instance offers, has seldom, if ever, been recorded in the *Hawk* tribe.

Patches of white, or indeed any other colour, may occur indiscriminately, or irregularly here and there, on any bird, and may be legitimately enough passed over as a "*lusus naturæ*" in plumage; but, in this instance, we have one side of the bird *precisely* similar to the other side in its variegated plumage, and not in colour alone, but in position, extent, and form, there is also *entire* uniformity, with the trifling exception of the extremities of the tibial feathers, previously alluded to. There is the same *extent* and *form* of greyish stripe extending right and left from the base of the whitish patch on the Occiput.

The wings precisely correspond, the whole of the primaries and nine of the secondaries being perfectly white on both sides of the bird. The colour of the bars, and their peculiar and incomplete form on the six tail feathers on one side, exactly accord with the colour, extent, and form of the six feathers on the other side, whilst the outer webs on the under surface of the outer feathers are alike nearly quite white. Then with regard to *form* of feather; the notches in the wing feathers of this Hawk differ in position from that in other Hawks, and correspond on the sides of this Hawk. Also the *relative* length of the wing feathers differs from other Hawks, and yet precisely corresponds in each wing of this Hawk.

As there are many deviations in a structural point of view, in this Hawk, from the ordinary formation in Hawks of a similar size to this, it may be well to enumerate them in detail, so that parties thoroughly informed in Ornithology may be induced to give their opinion to the less learned in this interesting branch of the natural sciences.

The British Hawks to which this bird bears any similitude whatever, either in size or plumage, are the Merlin, the Hobby, the Orange-legged Hobby, the Kestrel, and the Sparrow-Hawk. In the first place, the head is neither so broad nor so round as the Hawks alluded to; but it is quite possible, and I believe that this may be a defect in the stuffing, in the present specimen. Whilst this specimen numbers on the anterior and inferior tarsus six scutella, the Kestrel numbers only four, the Merlin four, the Hobby five, the Orange-legged Hobby seven, and the Sparrow-Hawk eighteen.

Again: this specimen numbers, on the *first* toe, eight scutella, the Kestrel seven, the Merlin eight, the Hobby eight, the Orange-legged Hobby five, the Sparrow-Hawk nine.

On the *second* toe, this numbers ten, the Kestrel nine, the Merlin ten, the Hobby twelve, the Orange-legged Hobby eight, and the Sparrow-Hawk fourteen.

On the *third* toe, this Hawk numbers twenty-two, the Kestrel sixteen, the Merlin twenty-one, the Hobby eighteen, the Orange-legged Hobby thirteen, the Sparrow-Hawk twenty-eight.

On the *fourth*, this specimen numbers thirteen, the Kestrel eleven, the Merlin eleven, the Hobby fourteen, the Orange-legged Hobby six, the Sparrow-Hawk eighteen.

—In this bird, the basal web exists between the third and fourth toes. So it does in the Kestrel and Sparrow-Hawk; whereas the two Hobbies and the Merlin have each *two* basal webs.

The notches on the wing in this bird are one each, on the first and second quill. The Kestrel and the Merlin have the same; but the two Hobbies have only one, which is on the first feather.

The *longest* feather in the wing, in this specimen, is the *third*; whereas the longest feather in the Kestrel, the two Hobbies, and the Merlin, is the *second*, and in the Sparrow-Hawk the *fourth* and *fifth*, which are of equal length.

The *second longest* in this Hawk, is the second quill; whilst the third feather in the Kestrel, Merlin, Orange-legged Hobby, and Sparrow-Hawk, is the *second longest* in the wing; and in the Hobby, the *second longest* is the first feather in the wing.

The *third in length* in this bird, is the first or outermost; which, indeed, is precisely the same as the sixth, and precisely the same as the outermost quill in the Kestrel, Merlin, and Orange-legged Hobby; but the sixth in these three Hawks does not equal them, as is the case in this Hawk; whilst the *third in length* in the Sparrow-Hawk is the second in the wing.

In this Hawk all the claws are a pale horny white throughout, without a streak or tint of any colour whatever, and about half the length of those of any of the five Hawks to which I have alluded, and scarcely incurvated at all.

Nothing but a possibility of this Hawk being a new species could justify the minuteness and consequent extension of this paper. I here appear simply as endeavouring to be faithful in description; which, after careful examination, is confirmed in all its details by Mr. Denny, the Curator of the Philosophical Hall in Leeds, who has figured the bird from the specimen in my possession. And I forward my communication to *THE NATURALIST*, *especially*, for three reasons: the first, because I think it is the duty of every man to endeavour to aid his neighbour; the second, because *THE NATURALIST* is so ably conducted as to promote the science of Zoology generally, and so judiciously conducted as to induce the working as well as the idle man to add to his own and others' happiness; and the third reason is, that I entertain the highest regard and esteem for you as a friend.

EFFECTS OF THE SEVERE WEATHER ON THE HIRUNDINIDÆ AT WOBURN, BEDFORDSHIRE, AND THE NEIGHBOURHOOD.

BY G. B. CLARKE, ESQ.

MANY years have elapsed since such a cold, variable, and backward spring as this has occurred. As an instance let us take the few preceding days on which the casualty I am about to relate occurred, which has been very beautifully described by W. Kidd, Esq., in p. 157 of the present vol.; yet my account does not quite agree with his. On the 26th and 27th of May we had two beautiful summer days; on Monday we had a *cold* change; Tuesday and Wednesday, *very cold* and windy, the dust, enough to blind one, flying about in all directions, wind shifting from north to north-east; Thursday a *bitter cold* day, wind still in the same quarter, very stormy, accompanied with *rain, snow, and hail*, the thermometer at 43; it was on this day, and succeeding night, that the above inoffensive creatures perished by scores, I may say by hundreds, in this neighbourhood. Wherever I have made inquiries the answer has been the same, viz;—On Friday morning, go where you will, you may see them scattered about, a most melancholy sight, where the poor creatures fell from exhaustion, cold, and wet, not being able to get any food, there they died; or in some instances in the town, the little fellows huddled together, for the sake of the little warmth they might impart to each other, on some projecting ledge of a house, until, completely worn out, they would fall and die; the superintendent at our Gas Works showed me six swallows that sat on the top of the pipe which conducts the gas from the ovens to the purifiers, where it was so hot that he could not bear his hand; they being

so benumbed with cold was the reason, I suppose, they did not feel the heat; on the Friday morning, they were all found dead on the floor, at the bottom of the pipe. I have also been informed, that, in an outhouse called the boiling house, at Wavendon House, about three miles from here, there were above a hundred of them collected for the warmth, where the poor things remained huddled together till they died. On Sunday, the 27th, hundreds of Martins and Swallows might have been, or rather were seen flying about in all directions; but you would have had a task to find either Martins or Swallows alive on Friday morning in the parish. How different this picture to what Sir H. Davy wrote respecting the Swallow; he says: "The Swallow is one of my favourite birds, and a rival of the Nightingale, for he glads my sense of seeing as much as the other does my sense of hearing. He is the joyous prophet of the year, the harbinger of the best season; he lives a life of enjoyment amongst the loveliest forms of Nature; *winter is unknown to him*, and he leaves the green meadows of England in autumn, for the myrtle and orange groves of Italy, and for the plains of Africa." Query: Are Swifts more hardy than Swallows or Martins? Because I do not miss any of them. I believe there are as many Swifts about here now as there were previous to the 31st of May. I think their powers of endurance are greater than either Swallows or Martins, so that they are enabled to endure the pinchings of hunger better than either of the others.

The winter, and its effects on the Thrushes, (*Turdus musicus*.) Blackbirds, (*T. merula*.) Fieldfares, (*T. pilaris*.) and Redwings, (*T. Iliacus*.) The past winter being unusually severe, and food very scarce, has killed a great number of both Blackbirds and Thrushes in this neighbourhood; single birds have been found dead, in numbers of instances, in the woods; and in Rabbit burrows several have been found huddled together, dead. The greater part of the Robins (*Sylvia rubecula*) in this neighbourhood also died from the same cause; consequently we have been deprived this spring of the pleasure of hearing the music we have been accustomed to, from the number of these songsters which used to frequent this neighbourhood. I have no doubt some of the old gardeners will say, a very good thing too; *we* can very well spare them, if you regret their loss.

Singular Hen's Egg. A few weeks ago, Mrs. G. Abercrombie, of Wavendon, was much surprised, on breaking what she supposed a very fine Cochin China fowl's egg, to see another perfect egg inside of it, about the size of a Wood Pigeon's egg, with a shell quite perfect, and the usual dark colour of those eggs. I have seen the small egg adhering to the shell myself, and can therefore vouch for the accuracy of the above.

Note on the red-backed Shrike. (*Lanius collurio*.) I was very much amused on the 24th of May, last Spring, as I was walking in Woburn Park; I saw a quantity of small birds making a very strange noise, and could not imagine what could be the cause of it; but on closer inspection I saw a female red-

backed Shrike sitting as unconcernedly as possible on the top of a small silver fir tree, from which she flew across the path in front of me to another small shrub opposite; when I was enabled to detect following her, and making a strange chattering noise, a Whitethroat, Blue Tit, Cole Tit, Great Tit, and a male and female Chaffinch. This occurrence reminded me very forcibly at the time of a group of Birds I saw in the Great Exhibition of 1851, called mobbing the Owl, where a Tawny Owl was represented as being disturbed by a quantity of small Birds by which it was surrounded.

Singular situation of a Rook's nest. The last two years a few Rooks have taken to building their nests on the tops of some spruce fir trees in Woburn Park. There are plenty of elm trees close to them, and in one of them there is generally a score of nests every year, and plenty of room in other trees for them to build in; yet these Birds prefer building in the spruce firs, although their nests would be much safer in the elms.

White Wild Hyacinth. (*Hyacinthus non-scriptus*.) In answer to your correspondent, S. Hyle, Esq., in vol. iv. of THE NATURALIST, p. 190, I beg to say, that I have frequently found white specimens of the Wild Hyacinth in this neighbourhood; they are by no means plentiful, but I have seen several this Spring. We have the blue ones growing in countless numbers in all the woods round us; they are quite a picture to look at; in some places nothing but a mass of blue to be seen, relieved here and there with beds of the Lily of the Valley, (*Convallaria majalis*), with its delicate white flowers and exquisite perfume, which makes a walk in our woods at this time of the year quite a treat; I believe the woods round us are considered to contain a greater variety of wild flowers than are to be found elsewhere in the county.

Woburn, July 16th, 1855.

NOTE ON THE LEECH.

THE other evening, on looking over Davy's very interesting "Account of Ceylon," I read as follows; and shall feel much obliged to any correspondent of THE NATURALIST, who will be so kind as to inform me of the proper name of the Leech in question, or any other information respecting the same: "I allude to the Leech. This animal varies much in its dimensions. The longest are seldom more than half an inch long, in a state of rest; the smallest are minute indeed. It is broadest behind, and tapers towards the fore-part; above, it is roundish; below, flat. Its colour varies from brown to light brown. It is marked with three yellow lines, extending from one side to another; one dorsal and central, the others lateral. The substance of this animal is nearly half transparent; and in consequence, its internal structure may be seen pretty distinctly. It is very active, and moves with great rapidity, and is said at times to spring. Its powers of contraction and

expansion are very great. When fully extended it is like a fine cord, and its point is so sharp that it readily makes its way through very small openings. It is peculiar to those parts of Ceylon which are subject to frequent showers, and is unknown in those districts which have a long dry season. It is most abundant in the mountains; not on the highest ranges, where the temperature appears to be too low for it; but on those which do not exceed two or three thousand feet above the level of the sea. It delights in shady damp places; and is to be seen on moist leaves and stones, more frequently than water. In dry weather it retires into close damp jungles; and only in rainy weather quits its cover, and infests the pathways and open parts of the country. Those who have no experience of these animals,—of their immense numbers, of their activity, keen appetite, and love of blood,—can have no idea of the kind and extent of annoyance they are to travellers in the interior of the island, of which they are the plague. In rainy weather it is almost shocking to see the legs of men on a long march, thickly beset with them gorged with blood, and the blood trickling down in streams. It might be supposed that there would be little difficulty in keeping them off, but this is a very mistaken notion; for they crowd to the attack, and fasten on quicker than they can be removed. I do not exaggerate when I say, that I have at times seen at least fifty of them on a person at a time. Their bites, too, are much more troublesome than could be imagined; being very apt to fester, and become sores; and, in persons of a bad habit of body, to degenerate into very great ulcers; which, in too many instances, have occasioned the loss of limb, and even of life!"—*Abridged from Davy's "Account of Ceylon."*—J. Mc'INTOSH.

LAND AND FRESH WATER SHELLS IN THE VICINITY OF OXFORD.

Nomenclature from Gray's Turton.

BY J. D.

HAVING derived considerable assistance from the catalogues of land and fresh water mollusca, which, from time to time, have been published in THE NATURALIST, I have compiled a list of what I have myself found in this neighbourhood, for the most part within the last two months, thinking it may be of use to any of your readers who now are at Oxford, or who intend going there.

I hope that the new collection of shells in the Ashmolean will give a *push* to studies of this kind.

Neritina fluviatilis. Common. Wytham; on *A. Cygneus*, Ferry Hinksey, &c.

Paludina vivipara. Ditches and stagnant water. Common. Very large at Blenheim.

—— *achatina*. Streams. Common. Rarely with *P. vivipara*. The Cherwell, &c.

Bithinia tentaculata. Very common.

—— *ventricosa*. River near Godstow; in Port Meadow, but very sparingly; ditch at Yarnton, but rare.

Valvata piscinalis. Common in rivers and streams. Ferry Hinksey, Godstow, &c.

—— *cristata*. River in Port Meadow; ditches at Yarnton and Bullingdon; rare.

Vitrina pellucida. Sandford; Woodeaton. Not very common.

Helix aspersa. Very common.

—— *hortensis*. A variety with hyaline bands, near Ferry Hinksey.

—— *nemoralis*. Very common.

—— *hybrida*. Not rare; among nettles in Barton Lane.

—— *Pomatia*. In a chalk pit between Handborough and Stonesfield.

—— *arbustorum*. Common. A variety with white interior at Ferry Hinksey.

—— *Lapicida*. Quarry at Stow Wood; sparingly. Never found alive but in very wet weather, when it comes out on the stalks of brambles.

—— *pulchella*. Common on walls and under stones; also the "*V. Costata*."

—— *Cantiana*. Headington. Abundant.

—— *fulva*. Among moss at Stow Wood; Childswell Farm. Not rare.

—— *aculeata*. Stow Wood. Rare. Under stones in damp situations.

—— *granulata*. Said to have been found on Bullingdon. "*Zoologist*."

—— *hispidula*. Very common.

—— *concinna*. Wytham, among damp moss.

—— *depilata*. Not rare. Evidently both this and *H. concinna* are identical with *H. hispidula*.

—— *rufescens*. Common. The white variety in Worcester Coll. gardens.

—— *virgata*. Common.

—— *caperata*. Equally common. Shotover, Cumnor, &c.

—— *ericetorum*. Bullingdon, Woodeaton, &c. Common.

Zonites rotundatus. Common in most places, under stones.

—— *umbilicatus*. Abundant on walls, at Woodeaton and Ferry Hinksey.

—— *pygmaeus*. Wall at Woodeaton, with the above, from the young of which it differs materially, in being flatter and darker coloured. *Rare*.

—— *alliaris*. Under Stow Wood; easily recognised by the peculiar smell. Not rare.

—— *cellarius*. Common. Often with the above, at Stow Wood.

—— *lucidus*. Rather rare. River bank, near Godstow.

—— *crystallinus*. In wet moss, at Stow Wood and Childswell Farm.

Succinea putris. Common. Very fine at Iffly, in the wet meadows.

Succinea Pfeifferi. Equally common with the above, of which it seems to be a more variety.

Bulimus Lackamensis. "Stokenchurch;" Norman in "Zoologist."

——— *obscurus*. Woodeaton, Botley road, Stonesfield, &c.; but nowhere very plentiful.

Zua lubrica. Headington Quarry, Woodeaton, &c. Common.

Azeca tridens. One in Headington Quarry; all that I have seen.

Achatina acicula. At the roots of grass, in Headington Quarry.

Pupa umbilicata. Common on walls; Woodeaton, Ferry Hinksey, &c.

——— *marginata*. Abundant on grass in Headington Quarry.

——— *Juniperi*. Headington Quarry, in great plenty; the young are covered with a calcareous coating, like *Bulimus obscurus*.

Vertigo edentula. Woodeaton, Headington Quarry, Stow Wood; but rare in all localities.

——— *pusilla*. Abundant on a wall at Woodeaton.

Balea perversa. Wall at Woodeaton, with the above, and under the bark of willow trees.

Clausilia bidens. Stow Wood; rare. Two specimens near Handborough.

——— *dubia*. Stow Wood.

——— *nigricans*. Common on walls and under stones.

Carychium minimum. Wytham, Godstow, Stow Wood; in wet moss.

Limneus auricularius. Common in the Isis, and very fine.

——— *pereger*. Ditches; canal, &c. Very common. The variety *acutus* also common. River in Port Meadow, &c.

——— *stagnalis*. Abundant, and very fine. Also the variety *L. fragilis*.

——— *palustris*. Near Godstow, Iffly, &c. Abundant.

——— *glaber*. Ditch near Kennington; rare.

——— *truncatulus*. On mud by the river. Common at Iffly and Godstow.

Amphipeplea glutinosa. One specimen taken from a ditch at South Hinksey. All that I have seen, though I have often vainly searched for it.

Velletia lacustris. Ditch between the Botley road, and Medley Lock; ditch communicating with the Cherwell behind Summertown.

Ancylus fluviatilis. On *A. cygneus* at Ferry Hinksey; stream near Woodeaton; river Ouse, near Buckingham.

Physa fontinalis. Common on water lilies; Godstow, Ferry Hinksey, &c.

Aplexus hypnorum. Ditch at Cowley, in tolerable abundance; but I have not seen it elsewhere.

Planorbis corneus. Common. Very fine in a ditch in Port Meadow.

——— *albus*. Rather rare. Ditch communicating with the Cherwell near the footpath leading to Water Eaton.

——— *carinatus*. Ponds and ditches. Common. Animal pale in colour.

——— *marginatus*. Ditches. Very common. Animal black, or nearly so.

——— *vortex*. Ponds and ditches. Very common.

Planorbis spirorbis. Common, and very similar to the above. The Cherwell, &c.

——— *contortus*. Amongst *Lemna minor*. Common. Ferry Hinksey, &c.

Cyclostoma elegans. Stow Wood; by the roadside; near Radley school.

Cyclas rivicola. The Isis and Cherwell; very fine. Also in other streams.

——— *cornea*. Ponds and ditches, in the mud. Very abundant.

——— *lacustris*. River Ouse, near Buckingham; but rare.

Pisidium obtusale. (?) A small species found in a stream near Woodeaton, and also in the Isis, in Port Meadow, I can only refer to this species; though the specimens are smaller than I should have expected to find *P. obtusale*.

——— *pusillum*. River Isis, above Godstow. Scarce.

——— *pulchellum*. Ditch at Cowley; Isis, near Godstow. Rather scarce.

——— *Henslowianum*. Isis, near Godstow. Not rare, though the adult shells are rather scarce. It appears to have increased since the introduction of the American Waterweed, (*Anacharis alsinastrum*), amongst which it is found. It was formerly considered very rare in this neighbourhood, and only a few specimens were recorded; but I have found it in tolerable abundance, both in the Isis, and in streams at Ferry Hinksey and Wytham.

——— *amnicum*. Streams at Wytham, Godstow, Ferry Hinksey, &c.

Anodon cygneus. Common in streams and ditches, but rarely large. Very fine in the Blenheim Lake, and the "Wolvercot railway cutting."

Unio tumidus. The Isis and Cherwell. Common.

Dreissena polymorpha. Abundant in the Oxford Canal; and especially in the Lock, near Worcester Coll. gardens. The Cherwell. On live shells of *A. cygneus*, in the "Wolvercot railway cutting." June, 1855.

ORNITHOLOGICAL AND OTHER NOTES. No. 2.

BY S. STONE, ESQ.

ANOTHER "affair" between a Weasel and a Rabbit. In a stroll, last spring, among the countless thousands of wild flowers, consisting principally of Primroses, Bluebells, and Wood Anemones, with which every open space in Cokethorpe Wood was covered as with a carpet of surpassing richness and beauty, I had just ascended to a Ringdove's nest, which was placed in a Spruce Fir, about fourteen feet from the ground, and was feasting my eyes on the two milk-white eggs the nest contained, or rather which were lying upon the platform of twigs the Columbidae are in the habit of putting together, and having so done, make themselves happy in the conceit that they have really constructed a nest; and which indeed does answer the purpose

of one indifferently well. Let us not, however, despise the work; but let us reflect for a moment, that the same all-wise Being who guides the Oriole Weaver of Senegal (*Oriolus texor*) in the construction of its exquisitely contrived nest, is likewise the Instructor of our Ringdove; and then, perhaps, the conviction will fasten itself upon us that, after all, this simple platform of twigs may be even better suited to the requirements of the bird than a more elaborately constructed nest would have been; and that, defective as it may have appeared to us, it is in reality the very best form of nest for this particular tribe of birds that could have been devised. But to resume the thread of my story: I was feasting my eyes on the two milk-white eggs, not with the intention or even the desire of feasting upon them in a more substantial way on the following morning, or at any subsequent period; nor yet with the intention of transferring them to my cabinet, nor of crushing the hopes of the fond expectant mother by appropriating them to my own use in any way; but simply admiring their beautiful oval shape, and the spotless purity and glossiness of surface they displayed, and feeling moreover interested in them as being the first of the species I had met with that season, when a piercing scream from a Rabbit struck my ear. Knowing, from experience, that this was the prelude to a tragedy about to be performed, I, obeying a sudden impulse, slid down from my position in the tree, and hastened with all possible expedition to the spot from whence the cry proceeded, which was only about seventy yards distant; this, of course, was only the work of a few seconds, yet, short as was the interval, the fatal blow had already been struck,—the life of the Rabbit had already ebbed away. On coming up to the place, and obtaining a glimpse of what was going on, “pop goes the Weasel” into his “stronghold” beneath the stump of a tree near at hand; he doubtless considering it advisable, under existing circumstances, as Menschikoff lately did at the battle of the Alma, to “beat a hasty retreat,” leaving his victim bleeding and lifeless; it had ceased to struggle or to breathe; blood was trickling from a slight puncture at the back of the neck, yet was that puncture, though slight, made with such fatal precision as to cause the death of the Rabbit almost momentarily; for it could scarcely have been attacked prior to my ascending the tree, I having been for some time in the immediate neighbourhood, and had any cry proceeded from it previously, as assuredly would have been the case if it had been previously attacked, I must have heard it. We now and then hear of a “practitioner,” to whose name the capitals, M. R. C. S. are carefully appended, destroying life in a wonderfully rapid manner, and that, too, at times when least intending it; but I question whether even the most skilful of surgeons could outdo the humble “practitioner” before us, who, without any pretension whatever to surgical knowledge,—without the slightest acquaintance with anatomical subjects, was yet enabled, with unerring certainty, to hit upon one of the principal arteries contained in the body operated upon, thus

rendering the death of the victim as painless, or, at any rate, its sufferings of as short duration as possible. Even here, then,—here in this deed of blood, may the hand of a merciful Providence be traced; for had not the operator been guided to a vital part in his attack, how prolonged might have been the victim's sufferings. To what horrid mutilation might it not, while still living and conscious, have been subjected. Truly is it said of God—"His mercy is over all his works."

Birds' nests occurring in August.—I never remember having met with such a variety of nests, containing either eggs or young birds, in any previous August as in that particular month in 1853. The following, without being particularly sought after, were observed by me in my rambles in this immediate neighbourhood.

August 1st. Nest with three eggs of the Black-Headed Bunting (*Emberiza schæniclus*). These eggs, had I not seen the bird sitting upon them, would have puzzled me a good deal in attempting to trace their "pedigree;" for although "a strong family likeness" was plainly discernible among themselves, there was little or nothing about them to connect them with the family to which they belonged; there was an entire absence of the beautiful flourishing streaks which characterize the eggs of the Buntings. They were of a dark, dingy, snuffy, brown colour; with here and there a round black spot.

Nest with five eggs, the fifth laid this morning, of the Tree Sparrow. (*Passer montanus*.) This nest was placed in a hole in a decayed limb of an Elm, in which one, and sometimes two broods of these birds have been annually produced for several years past; and which I trust will continue to be used as a "nursery" for this species for many years to come, in defiance of the efforts of the Sparrow club established here, to annihilate the whole race.

Nest with young of the Common Bunting. (*Emberiza miliaria*.)

Nest of the Land Rail, (*Orex pratensis*), from which I saw the old bird and her newly-hatched young ones run, on accidentally stepping close to it, in my walk across some meadow land near the river Isis.

August 2nd. Nest with three eggs of the Reed Warbler. (*Salicaria arundinacea*.) Ingeniously attached to, and supported by, the stems of reeds growing in the Isis.

August 3rd. Nest with five eggs of the Goldfinch. (*Carduelis elegans*.) This is the smallest, most compact, and most beautiful nest of this species I have ever seen. Perfect and entire as it is, its weight is less the sixth part of an ounce. It might very well pass for a nest of one of the larger species of Humming-Birds.

Nest with young, just hatched, of the Meadow Pipit. (*Anthus pratensis*.)

August 4th. Nest with fledged young of the Common Whitethroat. (*Sylvia cinerea*.) On being disturbed, the occupants of the nest all scrambled out

and dispersed themselves among the surrounding bushes. Passing by on the following day, I found that they had returned, and were again occupying the nest. This is the only instance I have met with, of young birds returning to the nest after having once quitted it.

Nest with five eggs of the Redbreast. (*Erythaca rubecula*.) One egg pure white; the others of a pure white ground, with spots of pale yellow at the larger end. Without a strict adherence to truth, communications of every kind must be worse than valueless; I am therefore compelled candidly to acknowledge, that, although I first met with this nest on the day here recorded, it had been lying at the house of the gamekeeper of Walter Strickland, Esq., who took it in Cokethorpe Wood ten days previously, not knowing, from the somewhat strange character of the eggs, to what bird it belonged: so that it cannot be said to be a nest found in August. But, as incubation had not commenced at the time it was taken, the young would not have been hatched until some time in that month, had the nest been allowed to remain. Under these circumstances, I have ventured to introduce it into my Journal of that month.

Nest with eight eggs of the Land Rail. This nest was situated in the same meadow, and within less than a hundred yards of the one I found on the 1st.

August 5th. Nest with two eggs, the second laid this morning, of the Ring Dove. (*Columba palumbus*.) This nest was composed of a platform of twigs, upon which was placed a substantial layer of straws.

Nest with two eggs of the House Martin. (*Hirundo urbana*.)

August 8th. Nest with four eggs of the Little Grebe, (*Podiceps minor*.) floating among flags on the Isis.

August 11th. Nest with three eggs of the Yellow Bunting. (*Emberiza citrinella*.)

August 12th. Nest with five eggs of the House Sparrow. (*Passer domesticus*.)

August 13th. A third nest of the Land Rail, containing nine eggs.

Nest with three eggs of the Reed Warbler, within a short distance of the one found on the 2nd, and like it, suspended among reeds.

August 14th. Nest with two eggs of the Little Grebe, near the one found on the 8th.

Nest with three eggs of the Hedge Warbler. (*Accentor modularis*.)

August 22nd. A second nest with three eggs of the Yellow Bunting.

A second nest of the Goldfinch, containing four eggs.

August 23rd. Nest with nine eggs of Quail, (*Coturnix vulgaris*.) disclosed by the scythe in mowing a field of barley.

August 31st. Nest with young of the Song Thrush. (*Merula musica*, Meyer.)

I have already stated that no particular search was made after these nests, but that they were met with in my ordinary walks. I have no doubt but that

several additions might have been made to the list by a diligent search. Nothing like the numbers were to be found in August 1854. A nest of the Pied Wagtail (*Motacilla Yarrellii*.) with young, was however found that month in the gardens at Cokethorpe Park; and many nests, some with eggs and some with young, of the Greenfinch; (*Coccothraustes chloris*;) neither of which were observed in August, 1853.

October, 1854.

CONTRIBUTIONS TO THE ICTHYOLOGY OF BANFFSHIRE.

BY W.

(Continued from page 231, vol. iv.)

Since writing the former part of this contribution, I have had the good fortune to be put in a position to add considerably to the list of Fishes obtained on the coast of Banffshire. In following Yarrell's arrangement it will be necessary to go back a little.

Greater Weaver. (*Trachinus Draco*.) A single specimen of this fish has been recorded. It was caught a good many years ago. One of the persons who assisted in capturing it, had his hand wounded by it; which caused him a great deal of pain, and thus impressed upon his mind the fact of its capture.

Striped Red Mullet. (*Mullus surmuletus*.) On the 5th Sept. I obtained a specimen of this beautiful fish. It was taken on the lines of the fishermen, when fishing for Cod, &c. It was of a yellow colour, except in the parts where it had received some injury, where it was of a blood-red colour. Its length was between six and seven inches. Three other specimens were got at the same time, but unfortunately I did not obtain them. The Rev. G. Harris has also found it at Gamrie, a romantic village about eight miles eastward of Banff.

Sea Scorpion. (*Cottus scorpius*.)

Four-spined Cottus. (*Cottus quadricornis*.)

The Pogge. (*Aspidophorus Europæus*.)

Common Sea Bream. (*Pagellus centrodontus*.)

Ray's Sea Bream. (*Brama Raii*.) Found at Gamrie, by the Rev. G. Harris.

The Tunny. (*Thynnus vulgaris*.) In 1850 one, measuring nine feet in length, and five feet ten inches in girth, was killed in a Salmon net at Portsoy, a village about eight miles westward of Banff.

The Sword-Fish. (*Xiphias gladius*.) In showing some fishermen "Yarrell's British Fishes," they identified the Sword-Fish, and remarked that they had frequently seen it in the frith.

The Scad. (*Caranx trachurus*.) "Buck Mackerel." At times found in the nets along with the Herring. They are considered as useless by the fishermen; but at times sold for a mere trifle to the "cadgers," who carry them inland and sell them to the country people.

Opah, or King-Fish. (*Lampris guttatus*.) On the 3rd March, 1830, a fine specimen of this fish was cast ashore, at Port Gordon, a village a little to the east of the Spey. It measured three feet ten inches in length, and weighed 126lb. Another specimen was found at the same place, about three months ago.

The Silvery Hair Tail. (*Trichiurus lepturus*.) Two specimens of a fish, supposed to be of the genus *Trichiurus*, were found dead near the above named village; one in November, 1810, and the other in November, 1812. See "Yarrell's British Fishes."

Regalecus Glesne. A specimen of this rare fish was cast ashore, at Crowe, another fishing village about a mile eastward from the village of Gamrie or Gardenstown. Mr. J. E. Gray, in his "Account of the Rare Fish caught off Cullercoats, in 1849," has a notice of it.

Montagu's Blenny. (*Blennius Montagu*.) A specimen of this rare fish was found by Mr. T. Edwards.

The Gattoruginous Blenny. (*Blennius gattorugine*.)

The Shanny, or Shan. (*Blennius pholis*.)

Yarrell's Blenny. (*Blennius Yarrellii*.) A fine specimen of this fish was found cast ashore, at Gamrie, by Mr. T. Edwards' Maggy, whilst she was looking for "queer things" for him.

Spotted Gunnel. (*Muraenoides guttata*.)

Viviparous Blenny. (*Zoarces viviparus*.)

Wolf-Fish. (*Anarrhichus lupus*.) "Sea Cat." This is rather frequent, and sometimes of large size. I have got them between four and five feet in length, and have been informed by the fishermen that they have seen them longer. Of the larger specimens the colour was blue; whilst the smaller ones were of a dark brown colour, and the young ones of a reddish brown. The flesh is very white and fat, and considered very good for eating by the fishermen. In cooking, they are skinned, cut into slices, and boiled in water, with a little salt.

Black Goby. (*Gobius niger*.) One has been procured by Mr. T. Edward.

Freckled, or Spotted Goby. (*Gobius minutus*.)

One Spotted Goby. (*Gobius unipunctatus*.)

Gemmeous Dragonet, (*Callionymus lyra*.) "Bridegroom," or "Bridegreem." This is of rather frequent occurrence. Last winter I obtained as good as a dozen; and on the 23rd Nov. I obtained three of them at once. About six inches appears to be the usual length, though I have got them longer. They have been found as long as 8½ inches in the Frith.

Sordid Dragonet. (*Callionymus dracunculus*.) I have obtained only two

or three specimens of this Dragonet. The Rev. G. Harris has found it at Gamrie.

The Fishing Frog. (*Lophius piscatorius*.) "Kettach," Sea Deevil," "Wide Gab." Frequently found, and of many sizes, sometimes the length of five feet. At times they are beautifully variegated with spots of a dull yellow. Whole Cods and Lings have been found in their stomachs. They are often cruelly treated by the fishermen. Sometimes they will cram large stones down their throats, and then plunge them into the sea, when they sink almost without having any power over themselves. At other times they will fill their wide mouths with the straw they may happen to have in the boat, and then enjoy the fun of seeing their vain attempts to get below the water.

Ballan Wrasse. (*Labrus bergylta*.) Several of this beautiful fish were caught during summer, at the foot of the rocks, amongst the sea-weeds. It goes by the name of "Sea Sow."

The Cook Wrasse. (*Labrus variegatus*.) A fine male specimen of this fish was caught by a fisherman of Macduff, on 12th October, 1855. It was of a deep orange colour, the sides being striped and spotted with bright blue. The head was striped alternately with light blue, golden yellow, and a pale flesh colour. The fins were of an orange colour, fringed with a delicate azure blue, except the dorsal fin, which merely had a tinge of that colour on its anterior margin.

Jago's Goldsinny. (*Labrus rupestris*.) One specimen cast ashore during a storm a good many years ago.

Gilt Head. (*Orenilabrus melops*.) This is frequently found in the Frith, although I have not had the good fortune to find a specimen.

Gold Carp. (*Cyprinus auratus*.) This beautiful fish breeds in great abundance in the dam of the flour and bone mill of "The Commercial Company," Macduff.

Minnow, (*Leuciscus phoxinus*.) is very abundant in the Isla, near Keith, and in the other tributaries of the Deveron, in which it occurs more sparingly. I have obtained it at the "Rack Mill," a most romantic spot on the banks of the Deveron, about two miles from its mouth.

The Pike, (*Esox lucius*.) is found in the Spey.

Gar Fish. (*Belone vulgaris*.) "Green-bone," or "Green-been." This was very plentiful during the autumn. On the 24th of August I obtained two. They have been found two feet and a half in length.

Saury Pike. (*Scomberesox saurus*.) On the 22nd of Nov., during a severe gale of wind, Mr. Andrew Patterson, a fisherman of Macduff, found this rare fish in the harbour. Its length was one foot from the point of the jaws to the caudal fin. The top of the head was of a deep green; the rest blue, with the cheeks and gill covers of a silvery white. The back was of a deep blue, which extended for about a quarter of an inch down the side. To this succeeded a stripe, which appeared blue when viewed edgeways, but of a greyish colour

when viewed directly. The belly was of a silvery white, but not with so strong a metallic lustre as the cheeks. This specimen seems to be the first recorded as found in the Moray Frith.

(To be continued.)

Macduff, Dec. 1854.

TO THE EDITOR OF THE NATURALIST.

SIR,—Allow me, through the pages of THE NATURALIST, to express to Mr. Morley, of New Basford, near Nottingham, the great and sincere pleasure which I felt whilst perusing his simple, unadorned, but excellent letter. The sentiments which it breathes are admirable; and coming as they do from a member of the working classes, are creditable alike to his head and heart. Sincerely do I wish the little band of Naturalists at Nottingham success. In the field of literature that good old town has produced some bright—yea, fadeless flowers—for the works of “Tom Miller,” and William Howitt must be read, so long as a taste for rural things possesses the mind of the English people, and the author of “Festus” must live in immortal song; nor in the walks of science will Hind and Lowe be forgotten; and in the same walk, we would fain hope, some latent star may be developed by the new Society, destined long to shine in “the firmament of fame.” Let the brave little band of workers be encouraged to persevere in their honourable course, by the recollection that perseverance will surmount an Alp of difficulty, and that the origin of some of the most distinguished ornaments of science, who still live to enjoy their well-earned honours, was not more exalted than their own. Who was Gould, the author of the magnificent “Birds of Europe?” Originally, I believe, a Berkshire plough-boy, who, with a natural taste for Ornithology, has manfully worked his way to his proud position. Who was Weaver, the Entomologist? Was he not a Birmingham artizan? I believe the following to be somewhat near his history. The late lamented Dr. Shirley Palmer, of Birmingham, although practicing extensively in medicine, contrived to indulge a taste for Natural History. He also strove to encourage the taste in others, whenever an opportunity presented itself for so doing. During the exercise of his profession, one day a patient called upon him, a pale working man, evidently much out of health. The Doctor discovered that he had a taste for Entomology,—or that, if there was any truth in the science of Phrenology, he ought to have,—and, in order to divert his mind from his disease, and furnish him with gentle out-door exercise, he recommended to him the study of insects; to go out into the fields and take them,

and then come home and arrange them. This advice was taken. The Entomologist progressed in his studies, encouraged probably by the Doctor, and he eventually collected a very good cabinet, which, if we have been rightly informed, was, upon his departure from Birmingham, sold for the sum of £1500. Mr. Weaver has continued to pursue the study ever since, and has had the pleasure of discovering many new, or remarkable insects. I merely cite the foregoing biography to show how much may be accomplished by study and perseverance, even in the humblest ranks of life.

The little band at Nottingham should not feel discouraged by the fact that, owing to their being inhabitants of a town, they are obliged to pursue the object of their study somewhat to disadvantage. The love of Nature is to be found largely developed in the minds of many hard working operatives, even in the heart of the largest cities, and it is almost always combined with bright intelligence and singleness of purpose for its pursuit. In the humblest ranks will be found indefatigable collectors of species in every branch of Natural History—men who before and after the day of hard toil in the mill or workshop, rob themselves of rest and sleep, march off to the distant moss, wood, or field, and satisfy their soul-felt cravings after the beauties of nature. "I know," writes my friend Mr. Plant, of Salford, "many such ardent collectors, and from my long intercourse with them I have had the opportunity of learning that their special knowledge of the habits and characters of birds, insects, and flowers, is equal, if not more practical and sure, to that possessed by our best writers. One man, a rope-maker, named Edward Jaques, an honest, kind, and gentle-spirited man, has for seventeen years, almost daily, night and morn, walked to a distance of five miles from Manchester, to look out for and study the pretty warblers which exist in that neighbourhood; and of them I can say his knowledge is perfect." How much is there in the foregoing narrative to encourage the humble student of nature. The labour attendant upon the acquisition of zoological knowledge may be great, but it is one of love, and the harvest of pleasure which it brings is as rich as certain. The Rev. J. Bird, who wrote upon the botany of Berkshire, once walked sixteen miles in search of new plants, and thought himself well repaid by gathering the rare Pasque flower; and so anxious were the Rev. — King, and the late remarkable yeoman "Job Lauseley," as he was familiarly called, —both Berkshire men—to see some Fritillary butterflies in a state of nature, that they walked from Blewbery to the meadows near Burghfield Bridge, a distance of sixteen miles, for the purpose.

A few words upon another part of Mr. Morley's letter. He says; "I hope the time is coming when we shall have more English and less Latin" in our works on Natural History. So do I, and expressed the same opinion some months ago, when I had occasion to treat of Mr. Stainton's Entomological Annual. Perhaps I may be allowed to repeat my remarks in this place. "Let the Editor keep rigidly to his promise of uniting the '*dulce*' with the

'*utile*,'—the *popular* with the *scientific*,—and he may be instrumental in performing most excellent service to the rising youth of this country, by inducing them to study a most pleasant and instructive science. It is the popularization of science, the divesting her of her unlovely garb of hard, dry, technicalities, that is so much required in the present day. We wish to see our natural history productions breathing *more* of the freshness of nature, *less* of the closet and museum. Whilst reading of birds and butterflies we like to inhale the odours of flowers; to feel the wind kiss our cheeks; to catch glimpses of fair fields and woods; and not only to find ourselves in company with animated beings, but to feel ourselves transported mentally to their natural haunts, and behold them as they appear in life. All this may be accomplished, and still the scientific nomenclature be retained. We have dwelt rather long upon this point, feeling thoroughly convinced that, if Natural History is to become a favourite study amongst the masses of the people, such a course must be adopted. It has been too much the custom to present the history of animated creatures to the casual reader, in a form, the merits of which were understood by the scientific few. The former, as a matter of course, felt little interest in that which he could not understand, and consequently was unable to appreciate. Now, had the same subject been presented to the same reader in an attractive form, it would probably have arrested his attention; from being a mere reader, he might have become an admirer, and successively an investigator, a discoverer, and finally a devoted student. What is it that has made "*White's History of Selborne*" commend itself to the taste of thousands, whilst many a more pretenceful work has been quietly consigned to the trunk-maker? How is it that the sketch of a single parish should have created more naturalists than almost any other book that was ever written? It is its fidelity to nature—its absence from technical terms—the exquisite beauty and simplicity of its descriptions—the pleasing and graceful sentiments which it expresses. Such is the character of the zoological works which we should like to see issued from the press in the present day; they would have the same effect as "*White's Selborne*," in awakening a love of nature in the minds of thousands, not only of our own, but succeeding generations."

Such are at least my own opinions, and by expressing them I do not wish to cast the slightest stain upon Mr. Stainton's pages. He has done much towards advancing the cause of Entomology, but how much *more* may he yet do. Could he simplify his work by adding the English to the Latin names, give more coloured figures of the species described, and fuller details of their habits, how many students in Entomology might he be the means of creating. His volume in its present state is valuable to a somewhat advanced student, but scarcely so to that class for whom it is intended. Suppose, for instance, a mechanic, or artizan, or even a person who has had opportunities for acquiring a more classical education, wishes to know something of insects,

and takes up Mr. Stainton's volume. He finds the introductory chapters excellently written, and proceeds. He turns over to page 26. His eye sees the alarming words *Anthrocera Minos*, *Petasia nubeculosa*, *Ypsolophus Juniperellus*, and many similar, which the student-mechanic may well designate "jaw-breaking words." They are as incomprehensible to him as the hieroglyphics on an Egyptian monument, or the cuneiform characters on the disinterred tablets of Nineveh. He quietly shuts the book, and lays it down in despair; for before he can learn the mysteries it contains, he must learn the Latin language. Why fold up the name of an insect in a chrysalis case of Latin? Why not adopt the excellent plan the Rev. F. O. Morris has adopted, in his "British Butterflies," of making the English the leading term, which all may understand, but, in order to avoid confusion of species, appending also the Latin name to an individual, to enable it at once to be recognized by the man of science. Since I purchased his volume, I have been able to name every butterfly which I have seen in my district, although possessing little knowledge of the subject. With hundreds of persons the pursuit of Entomology resolves itself into this; they want to know sufficient of it to give a zest to their walks. They ramble in the woods, perhaps; they notice a pretty dark butterfly, with spots like eyes on the wings; they admire it; would like to know something of its history. They turn to Morris and the enigma is solved. It proves to be, in plain English, *The Wood Argus*; and not, as in some works it would do, in ugly Latin, *Hipparchia Aegeria*. The rambler's want is supplied; and having ascertained its name, its habitat, and something of its habits, he has formed a basis, as it were, to work upon, and probably in his turn becomes a person who endeavours to ascertain by personal observation still further of its history. Thus are the secrets of nature gradually unfolded. If no plate of the insect, or English name and description had met the rambler's eye, but the dry words *Hipparchia Aegeria*, he would not only have remained in ignorance of the popular name of the insect, but even natural history might eventually have lost in him an ardent student.—JOHN JOSEPH BRIGGS.

King's Newton, Swarkeston, Derby.

Miscellaneous Notices.

A Mallard (*Anas boschas*) was shot, a day or two ago, on Bassenthwaite Lake, in a bay called Bownass, near to Bassenthwaite church. The length of the bird is two feet three inches. Mr. Yarrell, in his history of the Wild Duck, mentions the whole length, twenty-four inches. This specimen,

therefore, seems to be an exception to the common rule. The bird weighs three pounds and three-quarters.—C. W. ROTHERY, Greta Hall, near Keswick, March 24th, 1855.

Additional Heronry.—To the list of Heronries in England and Scotland, commenced by J. Mc' Intosh, Esq., I beg to add another; the only one as yet, I believe, recorded in *THE NATURALIST*, from Lancashire. It is situated in "Rigg's Wood," Rawcliffe Hall, near Garstang, the seat of R. W. Fancee, Esq. The last time I saw the Heronry, (a year or two ago,) it consisted of about twenty nests, built in the tallest trees. Two pair of Herons, also, had a fancy to build every year in an extensive Rookery, situated a few hundred yards from the Heronry. The sable community, however,—to prevent custom giving possession, I presume,—invariably imposed a "*chief*" upon the *fishers*, and collected it, in the shape of the materials that composed their first nests; the execution of which met with considerable resistance; and not unfrequently, a black "lord of the manor" might be seen beneath the trees, rendered *hors de combat* by the powerful beaks of the Herons. After the Herons' first nests had been thus destroyed, and the materials appropriated by the Rooks to construct their own, they were allowed to build and bring up their young that season, without further molestation.—J. P., March 10th, 1855.

Mildness of the Winter of 1854-5.—In the last week of December, 1854, a Blackbird's nest was taken at Sneaton Thorp, with four eggs, and a Sparrow's nest at Whitby, with five eggs. Jan. 2nd, 1855: the Blue Titmouse was darting at insects in the air, and Redbreasts singing, as in April. The Missel Thrush is heard every morning; and in any holly bush you can hear the Blackbird recording—(as the birdcatchers call it)—practising those sweet melodious strains, which anon will fill our woodland dales with enchanting music. On the 3rd of this month, a large ripe wild Strawberry was gathered; and there was a bunch of fruit and flowers left, which is coming fast to maturity. I took a berry of the same root, in November, 1854, the largest wild fruit which I have seen. Primroses in bloom are getting quite common on every sunny bank. In July of 1854, I had a male Montagu Harrier brought to me in the flesh. It was shot on our moors; and I had the pleasure of seeing the female, a few days after, soaring in the air. I also obtained three eggs from the person who brought the bird, which he had taken from their nest.—JOHN BRAIM, Sleights Bridge, Whitby, Jan. 10th, 1855.

Otter.—An immense male Otter was exhibited in the Pontefract market, on 3rd of Third month. (March.) From the head to the tail it measured rather more than four feet! and weighed twenty-five pounds! Its colour was very dark brown; the head and limbs very large, and the tail of great breadth at the base. Mr. Wright informed me, that, going out the previous evening with dog and gun, to shoot at some Wild Geese, his attention was arrested by a fierce combat in a hollow tree which grew close beside the river Aire.

His first impression was, that his dog was worrying a fox; when out backed the Otter, fiercely snarling at the dog, and retreating to the water; which element he nearly gained, when the dog fastened on his head and held him. The gun missing fire, Mr. W. beat the Otter upon the head till it appeared dead; and then, flinging it across his shoulders, proceeded to carry it home. Suddenly the animal gave unmistakeable symptoms of returning animation; but another severe application of the gun barrel terminated its existence. That evening it weighed twenty-six pounds! It is almost needless to add, that the dog was severely lacerated about the head. Mr. Wright told me that, a few years back, he shot a "bitch" Otter and three "pups;" and that he occasionally sees individuals in a "beck" upon his farm.—C. E. SMITH, Ackworth School, near Pontefract, 3rd Mo. 15th, 1855.

Anecdote of a Donkey.—In your Number for this month, your correspondent, W. L. Bellows, relates a very interesting instance of the communicative powers of the Horse. I was myself, a few years back, witness of quite as interesting an exhibition of sagacity, almost approaching to reasoning power, in a quadruped of more humble character, whose qualities for intelligence are generally held in much less estimation. In a visit to the neighbourhood of Marshfield, in Gloucestershire, whilst riding slowly along the old Roman Fosse road, now very little travelled over; in deep contemplation of the solitude around, the wild luxuriance of the trees and shrubs in the hedges, the long grass, the Foxglove, Hemlock and other rank and wild-growing plants, which almost choked the ditches; my attention was arrested by a Jackass, standing close to the side of a high barred gate leading into a field, unmindful and unobservant of all about him,—in fact, the very personification of dulness. Can so stupid looking an animal, thought I, possess the smallest grain of sagacity? As I watched him, his head moved. (It is necessary to remark, the bars of the gate were in a horizontal direction, and pretty close together.) By turning it sideways, with some difficulty he forced it between the bars; then, turning it to its natural position, his neck looked almost throttled between the bars immediately behind the head. Surely, thought I, the poor creature will be strangled; and was preparing to dismount with a view of giving relief. When, lo! after a minute's pause, he dexterously lifts the gate over the latch, and pushing it forward, releases his head in the same manner he introduced it; and walked straightway into the field, picking and choosing for himself. There was a system and tact throughout the performance, conveying an idea that the beast knew well what he was about, which greatly interested me at the time.—THOS. FULLER, Bath, June 4th, 1855.

Occurrence of the Bittern in Cambridgeshire.—In the earlier part of September, I saw a Bittern exposed for sale in a poulterer's shop in this town. I purchased it, and sent it to Mr. Baker, Naturalist, &c., of this town, for preservation. He made inquiries for me, and ascertained that it had been

shot by a labourer, near the station at Waterbeach, in this county. It was a bird of this year, and a very fine specimen.—THOMAS GEORGE BONNEY, St. John's College, Cambridge, December 1854.

Bittern. (*Botaurus stellaris*.)—A young bird of this species was shot near Repton, and is now in my collection. Many others have been obtained this winter and the last, in Lincolnshire and Cambridgeshire.—F. M. BURTON, Uppingham, March 12th, 1855.

Gray Phalarope. (*Phalaropus lobatus*.)—A specimen was shot last December, near Lincoln.—*Idem*.

Purple Heron. (*Ardea purpurea*.)—A young bird of this species was shot close to Lincoln, in the winter of 1854.—*Idem*.

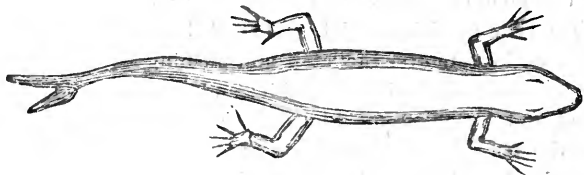
Occurrence of the Night Heron (*Nycticorax Gardeni*) *in Yorkshire.*—A specimen of this bird was shot on the 21st of May last, on a pond at Birdsall, near Malton, by the keeper of H. Willoughby, Esq., in whose collection it now is. This is, I believe, the second specimen which has occurred in Yorkshire.—DAVID GRAHAM, York, July 24th, 1855.

Supposed Breeding of the Common Crossbill (*Loxia curvirostra*) *in Yorkshire.*—A young bird of this species was shot on the 21st of July last, at Kelfield, near York, which had every appearance of having been bred there. It came to me in the flesh.—*Idem*.

Ring Ouzel. (*Turdus torquatus*.)—Last week, I had a very fine specimen of the Ring Ouzel brought to me. It was shot in this neighbourhood.—T. C., Luton, Beds., April 23rd, 1855.

Anomalous Eggs.—A Cochin China hen, the property of Mr. G. Burgess of this town, has laid eleven eggs, which are very large, weighing each from six to seven ounces. Each egg contains another egg considerably smaller, which has a perfectly formed yolk. The colour of the inner egg is much darker than that of the outer one.—*Idem*.

Curious Mal-formation of a Lizard. (*Zootoca vivipara*.)—During the month of June, 1853, I caught a specimen of the Viviparous Lizard at Southport, which exhibited a curious mal-formation of the tail, of which I enclose



you a drawing. The Lizard is now preserved in my collection. I should be glad of any explanation of the cause of this freak of Nature.—CHARLES FRYER Rumford-street, Manchester.



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Geodephaga ... to REV. J. F. DAWSON.
Coleoptera in general to E. W. JANSON, Esq.
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It is requested that all Communications be addressed in future
to **B. R. MORRIS, M. D., 38, Fawcett-street, Bishopwear-**
mouth, Durham.

NOTICES TO CORRESPONDENTS.

Communications have been received up to September 24th, from R. HOBSON, Esq., M.D.
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Contributions have been received up to September 22nd, from W. KIDD, Esq.—Mr. G.
KING—J. L. C.—Rev. F. O. MORRIS—R. W. FALCONER, Esq., M.D.—J. DUTTON, Esq.—
Mr. T. EDWARD—Mr. F. C. ADAMS—Mr. J. CAVAFY.

Infusorial Earths.—Dr. Morris would feel greatly obliged to any one who would favour
him with specimens of any Infusorial Earths, mounted or unmounted; and would endeavour
to make the best return in his power.

Bishopwearmouth, August 1855.

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the care of Messrs. GROOMBRIDGE, 5, Paternoster-Row, London.*

COMMON SQUIRREL. (*SCIURUS VULGARIS*. Linn.)

BY J. MC INTOSH, ESQ.

The Sciurus vulgaris, or *Common European Squirrel*. This elegant and active inhabitant of our woods, is so generally distributed over Great Britain, and so familiar to every one, that an account of its habits and manner of living, may appear to some of the readers of THE NATURALIST unnecessary. That there are, however, two opinions abroad among those unacquainted with God's mighty volume, wherein His perfections are displayed, as to the carnivorous or non-carnivorous propensities of Mr. Squirrel, is too true. Now it is to banish, I hope for ever, from such people's minds this carnivorous idea, that I have taken upon myself the task of saying anything about the habits of this elegant and active little fellow and pet of our childhood, for which I hope to be forgiven.

About the year 1843, the first public announcement of the carnivorous propensities of Mr. Skuggy appeared in the "Gardeners' Magazine," and from this journal it found a place in the "Magazine of Natural History," which was allowed to pass as current coin, on the authority of Mr. Wighton, who had observed a tame Squirrel, he had in confinement, partake of a morsel of the flesh of a dead bird.

This public announcement meeting the keen eye of that veteran of Natural History, Charles Waterton, Esq., produced from that gentleman's well known and truthful naturalist's pen, the following, *vide* Essay's Natural History, p.p. 40—44: "Had the Squirrel been wild in the woods, at the time Mr. Wighton saw it eat birds, I should not hesitate to pronounce that individual Squirrel to be carnivorous. The single fact of his Squirrel being in captivity, at once precludes the possibility of the Squirrel family being raised to the rank of carnivorous animals. I wish we knew more than we do of the carnivorous propensities, or the want of them, in certain animals, we might then be able to account tolerably well for many strange occurrences which every now and then puzzle us so much in the workings of Zoological gastronomy. So unaccountable indeed are sometimes the actions both of man and beast, not only in the eating department, but also in domestic arrangements, that we might really fancy the performers not to be quite right in their heads. My Tom-Cat, apparently an excellent mouser, will sometimes prefer dry biscuit to mutton-chop. Sterne's Ass seemed to relish macaroon. Parrots, in cages, will pull off their own feathers and eat them by the dozen. And, when I was in the Mediterranean sea, I saw a brute in the shape of a man, swallow pieces of raw fowl (which he had torn asunder, feathers and all)." Examples, such as we have quoted above, of the supposed carnivorous propensities of the various animals kept in *prisons* and *treadmills* for the amusement of our fellow-creatures, might be enlarged on—yes, enough to fill a volume of THE NATURALIST.



That the Squirrel is carnivorous in its free and natural state, I most emphatically deny. That they are, however, where numerous, wholesale destroyers of apricots, peaches, plums, walnuts, filberts, apples, acorns, beech nuts, the various cones of the fir-tribe, and the bark of old and young beech, poplar, and fir trees, I must confess; as we experienced in the year 1848, during our residence at Milton Abbey, in Dorsetshire, where Squirrels abounded. In the year 1847 there was an abundance of nuts, mast, acorns; but in 1848, there was a total failure of these, the natural food of the Squirrel. In the absence of nuts, &c., they commenced a wholesale destruction on young oak, beech, larch, fir, and poplar trees, by gnawing the bark off the bodies of the trees as effectually as if it had been done by the hand of man. Nor was this gnawing done in small patches, as we sometimes see it, even when there is an abundance of food; but actually in pieces of from one to ten feet in length, and quite round the tree, and, in some cases, to such a depth into the solid wood, that the slightest wind broke off the tops of the trees, giving them the appearance as if they had been cut off by some instrument. The poplar and the larch trees suffered the most.

The fact above related is also a convincing proof of the non-carnivorous propensities of the common Squirrel. If otherwise, there was an abundance of birds, large and small, quite at their service, if they had been inclined for a dinner off fowl, in the plantations and woods at Milton Abbey; yet they preferred their vegetable to an animal dinner!! or raw eggs!!! as we find, at page 187 of the present volume of *THE NATURALIST*, they are accused of doing, we must confess, however, by a class of men who are as ignorant, in most cases, of the habits of animals and birds which are not called *game* by their employers, as the ground on which they stand. These functionaries are sure to have a finger in the pie, always ready witnesses against the accused or other victims, and under such a circumstance as being guilty of "*sucking eggs*," would rather shoot a child than spare a Squirrel!!! if it was not for certain legal terrors.

One word more, and we have done for the present with the Squirrel. The Squirrel is easily tamed, and is frequently kept as a pet by many people, in what Sir George Head, in his "Home Tour" through the manufacturing districts, justly calls "treadmills:" he says "If there is one method more efficacious than another to deprive a Squirrel of liberty, it is this very contrivance, whereby, do what he will, he never can possibly be in a state of rest; when, let him vary ever so little, even for a moment, from his central position, everything begins tumbling about his ears. I have many times observed the panting sides of the little animal, its breath exhausted, without enjoying one inch of progressive motion, or one refreshing change of attitude for minutes together, within his treadmill. A man pelted with mud may believe he is hunting, or, laying on his stomach on wet grass, think he is swimming, as reasonably as a poor Squirrel, in the middle of a whirling

maize of wood and wire, can enjoy liberty, and the delight of running. A quiet house is a home, be it ever so humble; but when the house itself turns round, its homeliness is destroyed altogether." If there is one of our readers who keeps pet Squirrels, let him or her, for one moment, watch the poor little animals' panting sides, and reflect on what Sir George Head has so truly said. In conclusion, we can only say with the poet—

"The Squirrel spends his little rage,
In jumping round a rolling cage;
The cage, as either side turns up,
Striking a ring of bells a-top;
Moved in the orb, pleased with the chimes,
The foolish creature thinks he climbs;
But here or there, turn wood or wire,
He never gets two inches higher."

August, 1855.

A LIST OF, AND NOTES ON THE FUNGI FOUND IN THE NEIGHBOURHOOD OF EXETER.

BY MR. EDWARD PARFITT.

(Continued from page 81.)

Cantharellus lobatus. On Haldon, among sphagni and other mosses in the bogs. Not common. A very curious plant. My specimens were larger than those generally found, being two inches and a half high, by an inch and a half broad at the top, where it is curled and lobed. Found June 7th, 1853.

Merulius corium. Frequent about Exeter, on sticks, &c., always growing on the under side. Dec. 1852.

M. lachrymans. Too common in many places.

M. pulverulentus. This is a handsome species, particularly when it has a flat free surface to spread upon. I met with a beautiful specimen at Parker's-well house, spreading over an old rail in the garden.

Dædalia quercina. Not very common. On oak posts about Exeter. I met with a very fine specimen on an old oak gate-post at St. George's Clist. April 17th, 1853.

D. betulina. Very rare. Only one specimen has come under my notice. I found it growing on an oak denuded of its bark, lying in the Basin yard, near the quay. 1850.

D. unicolor. Common on rails in some meadows below the Salmon-pool.

Polyporus squamosus. Rare in this neighbourhood, probably from there not being many ash trees, the arborescent vegetation being principally elms. This species is very frequent in Norfolk, sometimes growing to a very large size. I met with a curious variety of this species, Sep. 22nd, 1853. It was growing from the stump of an Elm which had been sawn off even, or nearly so, with the ground. The base of the plant was an immense black knob,

from which sprung four stems, each about a foot long, spreading out at the top into a cornucopia-like pileus, a foot in diameter. The pores were larger than usual, and twice as long as wide, and somewhat pentangular in form, descending half way down the stem, giving it a beautiful reticulated appearance, dark brown towards the pileus, but gradually approaching to black towards the base, where it is quite black.

P. varius. Common on sticks, &c., everywhere.

P. giganteus. In Sir Stafford Northcote's park, on the roots of beech trees, August 28th, 1854, where the roots of the trees were barely covered with turf, these polypori were growing in immense numbers. Some of the roots were entirely covered with plants, for three or four feet, and, in some instances, more. Plants mostly about six inches in height, and densely packed and imbricated together, so as to form a solid mass. It is a fine and beautiful species.

P. sulphureus. Rare. Only one plant has come under my notice. It was brought me from an oak tree, by Mr. Packham of Exeter. He found it near Whitstone church, Sep. 1854.

P. hispidus. Rare. I have only seen one specimen, and that a very fine one. It was growing on an old apple-tree, near the ground, in the garden at Parker's-well house. Sep. 20th, 1854.

P. cæsius. Rare. On the sawn-off stump of a tree in General Hall's grounds. Sep. 1853.

P. adustus. Rare. I met with several specimens of this on a dead poplar lying on the ground at Coaver. 1852.

P. betulinus. This is also rare. On some dying beech trees on the Cowley Bridge road, about two miles from Exeter.

P. velutinus. Rare. On some dead trees in the Basin-yard, Exeter.

P. versicolor. Very common all the year, on sticks, &c. This species has a very wide range, as it is found over most of Europe; and also extending to the East Indies; for it was found by Dr. Hooker on the Himalayas, about Nangki, East Nepal, at an altitude of nine thousand feet, and at Darjeeling. Also, several other species of our British Fungi, belonging to different genera, were found by the same gentleman.

P. abietinus. Not common. On the stump of a Pinus at Coaver. Jan. 1853.

P. ulmarius. Common in the inside of hollow elm trees all about this neighbourhood.

P. radiatus. Very rare. A most beautiful species. I found my specimen on a living alder, near Counties Wear village, Nov. 19th, 1852. But I have not been able to meet with any since; I made a drawing of it directly, and have since had the opportunity of comparing my figure with that of Sowerby, and they are exactly alike. It is the most beautiful of the genus I have met with.

P. ignarius. Not common, though several are to be met with near Coun-

ties Wear, on some old willows. There is one old tree near the paper mills, with some very large specimens on it, where they have been for years, and are likely to remain, as they are so hard that no one can injure them.

P. ferruginosus. Not common. This is rather a curious species, having much the appearance of a resupinate sponge, except in colour, which, as its name denotes, is rust coloured.

P. vulgaris. Not common. Coaver. 1851.

Boletus luteus. Rather plentiful some years, in the woods round Sir J. Duckworth's park.

B. subtomentosus. Not common. I met with one large family of them under some Scotch firs at Coaver in 1852, but have not seen any since.

B. luridus. In the woods of Sir T. D. Acland, Bart. Sep. 14th, 1852. Not common.

(To be continued.)

OCCASIONAL NOTES.

BY MR. M. WESTCOTT.

THE NEWFOUNDLAND DOG. Although anecdotes innumerable have been written about the good qualities of this noble animal, yet the subject is not exhausted; nor would it be, were there double the number related; as every day's experience displays his tractability, sagacity, and fidelity, in a fresh light. Joseph Parsons, Esq., of this city, has a fine dog of the Newfoundland species, who is a very docile and affectionate fellow, to all with whom he is acquainted; but he is very sparing of his friendship to strangers, nor will he hold a familiar acquaintance with any one, until he has seen them about the premises some time. He is by no means a savage animal, however, for he was never known to attack any person, excepting on one occasion, and then he doubtless felt himself in duty bound to do so, in order to protect his master's property. On this occasion, the subject of his displeasure was a stranger who came into the yard, and "Lion," not liking his appearance, followed him about. The man unconscious of the dog's sagacity, and therefore careless of his presence, secreted a chamois skin and water-brush, which the groom had been using, and was about leaving the place, when he was pounced upon by the dog, thrown down and kept there, until some of the men came to his rescue. Before he left, they elicited from him a confession of the theft he had committed; which, of course, they assigned as the sole cause of his having been so summarily dealt with by his detector; for strangers are almost every day seen in the yard by Lion, passing to and fro, without the least attempt at interference.

This faithful dog is unfortunately troubled with fits; and when under the influence of one, he is terrible to look upon. The best remedy for them, at the time, is an application of cold water to the head. A few weeks since,

one of the servants came to me with the information that poor Lion was in a fit. I went and saw the poor fellow. He was sitting up frothing at the mouth; his eyes staring wildly, and his head working up and down violently. He was unconscious of everybody and everything. I conveyed him to a river close by, and washed his head well, which had the effect of speedily bringing him round. When he was recovered, he came out of the water and followed me; and, to my great surprise, began jumping up to me, licking my hands, and showing many other unmistakable signs of gratitude, for the service I had rendered him. I must confess, I was somewhat alarmed at his sudden attachment to me, fearing it was the effect of his malady, as he had never fondled me in this manner before. My fears, however, were groundless; for ever since the event, his attachment to me has been unabated. It was but yesterday, as I was passing through the house, he saw me coming; and the poor fellow scarcely knew how to contain himself, he seemed so much delighted at my presence. And then, as on other occasions, I was compelled to tie him up, to prevent him from following me about, regardless of "who calls." He is about twenty years old, and is nearly deaf,—not, I believe, from old age, but owing to his excessive fondness for diving, whenever he takes a plunge into the water. He is the pet of the house, and is privileged each day to take a walk with one or other of his amiable young mistresses; and it is a privilege he certainly is deserving of, possessing, as he does, those two noble virtues, which we do not always find blended in the "lord of creation," namely, GRATITUDE and FIDELITY.

THE SNOW BUNTING (*Plectrophanes nivalis*) and SHORT-EARED OWL (*Strix brachyotos*) were shot, a few weeks since, at Richford Comb, Somerset, and are now in the possession of Mr. Hooper, Taxidermist, of this city. They are very fine and highly coloured birds, and uncommonly scarce in our neighbourhood.

THE PAINTED LADY (*Cynthia Cardui*) and RED ADMIRAL (*Vanessa Atalanta*). What I stated respecting those two flies, in THE NATURALIST, vol. iv. page 172, holds equally good this season. I was noticing it to some friends, and they told me that they have not seen a single fly of either sort this year. But the PEACOCK (*Vanessa Io*.) and the SMALL TORTOISE SHELL (*Vanessa Urtica*) have appeared in thousands; for not a day have I been abroad, since I first observed them, without seeing them in dozens; and indeed I have counted as many as nine Small Tortoise Shells pitched upon the flowers of one Fox-glove plant. And the Peacocks have been almost as numerous. However, I am sorry to say that others of the rarer sorts have been as scarce as the above were numerous.

St. Cuthbert-street, Wells, 1854.

NATURE'S HOLIDAY, SHARED WITH TWO OF HER LOVING CHILDREN.

BY WILLIAM KIDD, ESQ.

Behold! how fast advancing o'er the plain
The rosy AUTUMN comes, in rosy triumph,
Waving his golden hair! Yon blooming mallow,
That opes his red lips to the kiss of day,
Just tells his coming,—then retires unseen
To join his sister tribes in Flora's bower.—KORNER.

I HARDLY need tell you, or any of your kindred readers, that Nature's children require little introduction to each other. "One" heart is common to the whole (very small but very select) family. And *what* a heart it is! A short preface this, to a large volume of meditations, whose essence must (unwillingly on my part) be compressed into a nutshell of space. "Brevity," however, "is the soul of wit."

Good-fortune—Dame Fortune is always "good," if we could only think so—has recently brought one of your amiable and valued correspondents,—JOHN MC INTOSH, into my immediate neighbourhood. Once, and once only, had I seen this gentleman previous to his arrival amongst us; and that once was for a very few short hours. An epistle was of course immediately fired off by him. I received the fire in my heart, and returned it,—hitting the challenger in the same tender part. It was "a dead shot!"

What could an epistle, written by one child of Nature to another, contain at such a season as August? What but an appointment for an interview, previous to ranging the fields in company? Exactly so; that was *it*!

But "there is many a slip 'twixt the cup and the lip." A severe domestic affliction, which promised to end fatally, set aside (on the very morning prepared for a ramble) all possibility of realising our intended happiness. It was my painful duty, and melancholy pleasure, to tarry by the bed-side of the fair sufferer,—not only for that day, but for many days subsequently.* Kind Providence, however, blessed the means used; nor were my silently-breathed prayers unheard. In another fortnight, my patient was becoming gradually convalescent; and I felt fully justified in quitting my post of honor for one day.

Imagine, then, Wednesday,—August 29th, one of the very finest days in the Calendar of 1855. Our place of rendezvous was Shepherd's Bush; the appointed time for meeting half-past nine a.m. Some few minutes previous to the chimes of the half hour, had a curious eye been taking observations, there might have been seen advancing up two separate roads (joining each other at right angles) a pair of happy faces. These happy faces were mounted upon two flexible pillars of flesh and blood,—the base of each being

* This was a case of Cholera, attended by the most alarming symptoms, the ravages of which remain still but too visible.

divided into two pediments, internally animated by very nimble machinery. At half-past nine precisely, these two moving figures mechanically came into contact. Then was there a right royal greeting between them. Four such hands, and two such hearts, were not long in becoming united. Honesty and Sincerity,—what a happy union!

“We met,—’twas on the green,”

at Shepherd’s Bush; and now behold us *confrères* for the day.

Far be it from me to arrogate the power of expressing in words, or minutely detailing the impressions made upon two such ardent lovers of Nature, whilst sauntering along under an azure sky, and feeling themselves in the immediate (but unseen) presence of the Great Creator of Heaven and Earth. Those who are in the secret will understand me. To others I shall speak in parables. If I could impart to the World at large the feelings I hint at, and which are peculiar to all true lovers of Nature at this jubilee of the year, how gladly would I do so! But who can hope to regenerate the hearts which seek for pleasure in so opposite a direction? Not I! Fashion and the love of gold, *versus* Nature and the love of God. *What* a conflict!

The morning had dawned with one of those grey mists peculiar to the season, and which indicate the gradual development of a fine, enjoyable day. We had provided accordingly. Lightly clad, we were equal to some thirty miles at least. “Where shall we bend our steps?” said I. “Any where,” replied my smiling friend. Oh, how delightful it is, thus to wander at random!

Wood-Lane now stood invitingly before us, with its long vista of hill and dale, trees and shrubs,—all animated as far as the eye could reach, by cattle grazing, and heifers frolicking among the stunted bushes and springing grass. Entering this lane, we pursued our way gently forwards, until we reached the celebrated Wormwood Scrubs. Bearing a little to the right, and then again to the left, there lay before us, rising in picturesque beauty, the grand Cemetery of Kensall Green. Thither we progressed, (conversing on all sorts of subjects by the way,) and were soon among the tombs.

Two philosophers, educated in Nature’s simple school, could hardly fail to find in this garden of the departed food for much reflection. There was not much “simplicity” here! But there was Art in abundance. Oh, the mendacious epitaphs, and absurd aspirations, that defiled seven-eighths of these head-stones! And what an endless parade of “Esquires,” and lordly titles! I will not relate our conversation, nor our meditation amongst these tombs. Suffice it that if it was not profitable to others, it was so to ourselves.

After deploring “the ruling passion strong in death,” every where so visibly painted in letters deeply sculptured in stone,

“We turn’d and left the spot.”

The sun was now showing us his lovely face in right good earnest; and

his glorious beams gladdened our royal hearts not a little. Quaffing to his godship's health, by the road side, in a glass of sparkling ale, we were soon again on our way.

Not to be tedious, we rambled on through many a rich landscape, and next came to an anchor at Harlesdon Green,—a miniature rural village of simple beauty. Here we halted a while, to gaze around on the quiet repose of Nature and her happy creatures. * * * Leaving the Royal Oak to the right, a little wicket gate stood before us. Temptingly it seemed to say,—enter! We did so, and marched gaily forward. Now this wicket gate conducted us, by a pleasingly-tortuous course, through a long succession of beautiful narrow lanes, meadows, fields, parks, and paddocks. A more rural walk could hardly be imagined. Did we not enjoy all this? Oh—yes!

Dwelling a little on a style, to survey the multitude of pretty views that dotted the surrounding country on every side, and carefully examining many of the little winged insects that in their happy flight crossed our path by the way,—we found ourselves drawing near to the charming village of Willesdon, whose sweetly-retired church could be just discerned through the trees. * * * We were now inclined for a rest, and I boldly made up to the White Hart (immortalized, together with the hand of mine host's fair daughter, in a former number of *THE NATURALIST*.) Here we were immediately “at home.” A pretty spot is this. There is a well-arranged garden, well-filled with the choice flowers of the season; a noble lawn, smooth and soft as any carpet; a variety of rustic boxes, over-arched with graceful climbing plants, and shaded from the sun; a pond abounding in gold and silver fish; a snug hostelry, a civil host and hostess, and last not least—*Finis coronat opus*—there is the presiding goddess at the “little window” opening on the lawn. I allude, of course, to the flower of the family,—mine host and hostess' amiable daughter. Through her fair hands pass all the good things that find their way to the guests without. Happy guests!

We were not long in ensconcing ourselves in a rural box. Naturalists use no “ceremony” in these matters. Oh—no! Anon, appeared a very sensible joint of cold roast beef, vegetables, &c., &c.; and such a tankard of foaming ale! To all and each (having the respectable appetite which is native to a naturalist,) we did ample justice. Then we fell a-talking about our early days, our early perceptions, tastes, and habits,—our present views of life, our love of Nature, our indescribable enjoyments when beyond the foul contact of cities and the dwellers therein. My companion had passed many of his boyish days at Willesdon! Here was a theme to descant on! Incidents, long cherished, were here in many instances palpably illustrated. There once stood “the” house; here it is now! There stood “the” Rookery; here it is now! * * * Thus flew the hours,—oh, how swiftly! Mending our draught, and mournfully gazing on our repeater, we rose to depart. Of

course our shot was defrayed at—"the little window." That was only natural. A—hem!

Now for a curious little reminiscence of the "White Hart." Entering the garden, we heard certain footsteps creeping stealthily behind us. On turning round, our eyes fell full upon a curious figure habited in fustian. Thick-set was he, and I imagine uneasy in his mind. "Who are *you*?" said I. "The waiter," replied he. "*We have ordered*," said I, "at the little window." He then disappeared. Reappearing presently, he brought with him our first course,—and vanished. We "waited" on ourselves afterwards; and thought no more of the man in fustian. Had he forgotten us? Listen!

When preparing to leave, our hand fell on the latch of the garden gate, opening into the high road. It would not move! The gate was secured; and so were we,—by the man in fustian! In one moment (where he came from I know not) this remarkable phenomenon appeared at our elbow. No magician could have summoned him up more mysteriously. Bending himself into the figure of a half-moon, he contrived to deliver himself safely of the words,—"*W-a-i-t-e-r, Sir!*" At the same instant, the gate flew open. We both stared (well we might, at such an apparition!) What was to be done? I dived into the recesses of my coat pocket for some penny-pieces; but before I could fish them up, my companion had forestalled me, and slipped a piece of *real* silver into the fustian "waiter's" hand. He clutched it—his eye rolled—his jaw fell—his face became a reflex of many colours. He was tongue-tied; and actually staggered out of sight. I *had* remonstrated, but it was—too late!

That this man was a stranger to silver, was evident; and intense must have been his agony whilst thinking *how* he should contrive to spend so large a sum. I strongly suspect that a fit of apoplexy must have quickly supervened; and much do I congratulate myself on not having been a *particeps criminis* in so reprehensible a *douceur*. He may now be in a lunatic asylum! Who knows? Alas, how much mischief may be done even with a "little sixpence!" Next time I visit the White Hart, I shall assuredly go in masquerade. So much for this little episode.

It is not my intention, nor will space admit of it, to describe the residue of our day's ramble. Neither need I dwell upon the delight we mutually experienced in each other's company. * * * On we went; turning every thing we saw into a subject of profitable conversation and contemplation. From the minutest object in creation to the greatest,—Man, all in turn occupied our mind and tongue. Nor were our external senses less happily entertained. There was the aromatic fragrance of new-mown hay on every side of us; the sweet music of Zephyr, dancing gently among the fairy leaves of the trees; the tinkling of the sheep-bells in the near and far off distance; and the lowing of oxen which were rejoicing (knee-deep in water) in the meadows below. Then were our eyes refreshed by a sight of the golden

grain, which was being stowed away in lavish profusion every where. Men, women, children,—all were occupied in the goodly work. We fell in, too, with such a nice party of “cricketers,” on a certain green sward! How the lads and lasses dealt out their blows on the devoted balls! Whizz! they went; and how the young ladies and their mammas enjoyed the sport! Had time permitted, we too should have had an “innings.” Those arch faces, prettily shaded by “Fairy Ring” hats, (umbrageous in their coolness,) told us we were more than welcome. How delightfully eloquent is the human eye,—when pleased! The human heart too,—how *soft* when properly played upon!

This,—and very much more. But I must come to a close. It will be gathered from what I have said, that our good mother, Nature, had finished all *she* had to do. She was now complacently rejoicing in the work of her delicate hands. All was hushed, quiet, peaceable. The birds, not yet in full livery, (the young robins excepted, which were singing merrily throughout the day,) were concealed in the thickets. Feeling themselves unclean, they had sought retirement. Whilst I now write, they are abroad again,—their beauty matchless.

Such, in faint outline, were the joys of this memorable day. I have recorded them, in the hope of bringing about more of these friendly *réunions*. They do the heart good. Birds of a feather *should* flock together; for a Companion, properly so called, is a rarity, and “when found” should be “made a note of.”

The follies so fondly hugged by the World, and which constitute all their so-called happiness, are unworthy of a sensible man. I only wish every body detested them as much as I do. “Amen!” adds my companion for the day. Never did two people sympathise more sweetly, or fraternise more cordially. Long may our (un) common friend, JOHN Mc INTOSH, live; and long may we live to enjoy his company!

New Road, Hammersmith, Sept. 17th.

THE VARIETY OF THE HAWK FIGURED IN “THE NATURALIST,” FOR SEPTEMBER.

BY THE REVEREND F. O. MORRIS.

DR. HOBSON, of Leeds, has been so obliging as to forward to me a coloured engraving of this bird. I have not, myself, the shadow of a doubt that it is a variety of the Sparrow-Hawk. The curiosity of the instance is, I think, that it is at one and the same time a hybrid (probably) and a (partial) albino.

That it is not a new and distinct species, or, at all events, that it is an albinose individual, is, it seems to me, clear, from the light colour of the

claws; and, if so, its identity with the Sparrow-Hawk is at once, *me judice*, indicated by the length of the middle toe, and corroborated by the short length of the wings. That the comparative length of the quill-feathers is not an unerring characteristic, especially in this species and some others, is thus referred to in the account of the Sparrow-Hawk, in my "History of British Birds," vol. I, p. 153: "In some specimens the fourth quill is the longest, the fifth almost as long; in others, these relative lengths are transposed; shewing, as pointed out by me (the original observer of the fact in another bird being the late Mr. Sweeting) some years ago, in THE NATURALIST, that no distinctive character ought to be considered as certainly established from the length of the quill-feathers of the wing." So also in my account of the Hen-Harrier, p. 166: "Mr. Yarrell quotes in his work an observation which I had recorded, some years before, in my magazine, THE NATURALIST, as to the fourth quill-feather in the female being the longest, and the third in the male. He suggests that, in such cases, the birds may have been killed in autumn, before the ultimate relative length of the feathers has been gained. The question, however, will be a puzzling one, why one feather should grow faster than another; who shall decide? A difficulty is certainly put in the way of founding specific distinctions on the relative length of the quill-feathers, as I have already pointed out in the case of the Sparrow-Hawk, and shall have occasion to do in that of the Snowy Owl." Thus also in the account of the last-named bird, p. 198: "Primaries also white; the first is sometimes longer than the fifth, but often shorter."

As to the number of the scutellæ on the tarsi or the toes, these are still less to be relied on as distinctive specific signs. I had occasion to write as follows in my account of the Erne, p. 17: "The middle toe has eight long scales, the outer one five, and the inner and hinder ones four each. Another description assigns to the first and second toes three, to the third twelve, and to the fourth six. Another describes the middle toe as having sixteen, on the side or hind toes six each. And, again, another gives thirteen to the middle one; so that it seems to me pretty certain, that no distinctive character is to be derived from their number; age may very possibly have something to do with it."

It is to be observed further, that the basal web extends, in the bird figured, between the third and fourth toes, as in the Sparrow-Hawk.

White and other varieties of Hawks are not extremely rare. Thus, in the account of the Marsh-Harrier, I wrote, "Latham describes a specimen of this bird as of a uniform brown, with a tinge of dust colour; Montagu, one which had the head, some of the wing-coverts, and the four first quill-feathers, white; Selby, one which had the four quill-feathers, throat, part of the wing, and the outer tail-feathers, white; and the Rev. Leonard Jenyns, one of which the lower half of the breast was white; and others, spotted with white in various ways,—some have the upper part of the breast, and others part of

the back of the neck white; others, without the white head, have a greyish spot on the throat. Sir William Jardine describes one as entirely brown, excepting the forehead and back of the head, throat, sides of the mouth, and tips of the quills, which were white; another, pale reddish-brown, the upper tail coverts and base of the outer tail-feathers pale yellowish-red, the former shewing a bar; the back of the head pure white, extending over each eye. I have also mentioned a variety of the Sparrow-Hawk itself perfectly white.

Again: The white at the occiput in the bird figured, seems to approach to the same feature on the nape of the Sparrow-Hawk. The want of the cross bars on the breast appears to me the only cause of doubt; but not only do these offer, in the engraving, indications of these, but on the supposition of the bird being a hybrid, their absence would be no difficulty.

On the whole, then, I conclude that the bird figured is a variety of the Sparrow-Hawk, an albino, and probably also a hybrid between that species and some other, either the kestrel, or the hobby, or the merlin; most likely the first name. This is made the more probable by the consideration of the fact that both species are so commonly kept in confinement; for it seems to me, that the shortness of the claws may be accounted for by the supposition of the bird having been the progeny of two tame hawks of the above-named species, and itself to have made its escape after having been for some time kept in a state, in which, possibly, as it would not require, so it would not further, a full development of those organs of predatory attack.

Nunburnholme Rectory, Hayton, York, Aug. 31, 1855.

EXTRACTS FROM CORRESPONDENCE WITH A BROTHER NATURALIST.

BY F. M. BURTON, ESQ.

ONE of the finest parts of N—— Park, where I have lately been staying, consists of a noble avenue of Yews, many of them of vast size, one measuring seven yards round thickest part of the trunk. In these trees, which are mostly hollow, I found a large colony of Jackdaws, from two to three nests in each, some with eggs, others containing young, which on my peering down at them, opened their wide mouths and hissed;—you would have enjoyed the sight.

I have lately been mounting a couple of Knots *T. Canutus*, and, in skinning them, found at the top of the cranium, a very thick sort of flesh covering the bone from between the eyes to the beak, like the formation of a second skull, and something resembling soft bone in texture; I have never met with it before in any other bird.

Last week, I shot another Short-eared Owl, *S. Brachyotos*, out of a turnip field. Is this the only one of this tribe that can see and hunt in broad day

light? There is a singularity in the markings of this bird; one of the centre tail-feathers is perfectly white, while all the others are of the usual colour.

As some men were ploughing up an old stubble-field, near here, a few days ago, they turned up three or four Mice (*Mus messorius*) snugly ensconced in a capacious hole, with plenty of old grass and other soft materials to keep them warm, and, as the men declare, nearly half a peck of wheat, which they must have carried there, grain by grain, for their winter store. I wonder if these mice lie torpid in the cold season as the Dormouse does, only reviving occasionally in fine warm weather. I recollect, while shooting in a wood one sunny day in December, seeing

"The sly little Dormouse creep out of her hole,"

and a most desperate grab I made at it, but the little fellow was much too nimble, and was soon out of sight again in the long grass.

I think the two notices this month, as to the Mole's eyes, in *THE NATURALIST*, will at once set at rest this question, and restore the poor little miner to his sight again. The discussion takes us back to the Eton Latin grammar:

"Oculis Capti fodere cubilia talpæ,"

which leads me to remark, that a great many of the vulgar errors current respecting the habits and manners of animated life, derive their origin from poets too freely using their license. Many people have an idea that the Nightingale feeds entirely on Glow-Worms; of this absurdity Cowper is of course the author; and there are many errors of a similar kind in the writings of other poets. The circumstance of the Short-eared Owl, *S. Brachyotos*, preying by day, is not singular; as the Snowy Owl, *S. Nyctea*, and the Barn Owl, *S. flammea*, are known sometimes to do the same. I have seen the latter hunting in the fields in the breeding time, probably having young to provide for, as soon as ever the sun has gone down, and when it has therefore been quite light. The Owl is a great favourite with me, but I regret to say, the species formerly very plentiful in this neighbourhood are becoming rare. If people only knew the incalculable amount of good conferred on them by these persevering mousers, these useful birds would have encouragement rather than ill-will. All the farmers round here say they rob the pigeon-cotes; but Waterton has, I think, satisfactorily disposed of the accusation.

I am very sorry to see the account in *THE NATURALIST*, of the undoubted predatory habits of the Rook, *C. frugilegus*; I never met with any instance myself of this bird eating flesh, and hope it is of very uncommon occurrence; I should have liked much to have known the state of the weather and ground at the times the Rooks ate the Partridges' eggs, for, of course, if the instances occurred at very dry seasons, when the ground was probably very hard, and a great scarcity of their insect food in consequence, it is

reasonable to suppose they would dine off eggs rather than go without dinner at all.

While sauntering, a few days ago, down a favourite green lane watching a couple of Herons slowly wending through the air, cruelly mobbed by a flock of Rooks, a large Rat ran across my path evidently in great distress, and presently, following in its track, appeared a little Weasel in pursuit. I saw no more of them; but from the exhausted state of the Rat, I have no doubt it was soon caught. What astonishing perseverance these little creatures show in pursuit of their prey, it is almost impossible to drive them from it. I remember, a few weeks since, in one of my early morning walks, seeing one of them dragging across the road, a few yards before me, a large Rat, which was still quite warm; the little creature abandoned its prey on my approach, but sat in a ditch near watching; and I had not gone away more than ten yards, when out it came again and carried away the Rat by the neck. I remember also once an instance of one of them attacking a full grown Hare, which it must have caught as it lay asleep;—attracted by the animal's cries, I ran up to the spot and put an end to the strife. The Hare was not much injured, and both of them got away.

A friend of mine, a few days ago, related the following interesting anecdote: He was walking by the side of one of the broad drains in the Lincolnshire Fens, when his dog suddenly made a pounce at something in the water, and, after a little splashing, landed a small Jack, which had got into shallow water and could not make his escape. My old dog shewed himself rather more than usually sagacious a few days since; he was thirsty, and the ground being quite hard from the night's frost, and a coating of ice on the road-side pools, he made use of his paw as a hammer, and after breaking a small hole, quietly drank his fill.

I have been to-day to see a Gannet, *P. Bassanus*, which was shot near here, skinned by a bird-stuffer. Its structure is most curious; on the under parts of the body, the skin does not, as in all other birds I have ever seen, adhere to the flesh, except down the centre of the breast-bone, where it is, as usual, fixed. No doubt these cavities can be filled with air at will, and assist in making the bird more buoyant on the water, and so facilitate the pursuit of Herrings and other fish upon which it feeds. I see, on referring to Montagu, that he supposes the intermediate air preserves it alike from cold and heat, and so keeps up a necessary temperature. It is strange that Montagu is the only author among the few, whose works I possess, who takes notice of this great peculiarity in the formation of this bird. Yarrell, M'Gillavey, and old Bewick all pass it over in silence.

Your anecdotes of the dog are interesting; but I heard one, a few days ago, much more extraordinary, indeed almost, if not quite beyond belief,

marvellous as the tales about dogs are: I met, last year, in the Highlands, a gentleman Salmon-fishing, and he assured me that a little Terrier of the Skye breed, which he had with him, would, whenever he hooked a fish, jump into the river and perform the part of a landing-net.

In the grounds in front of our house, we have a pond with two small islands for the water-fowl to breed on, and here I keep two pairs of tame Canadian Geese; during the winter they live very peaceably together, but as soon as the spring comes on, the two ganders become pugnacious, and separate each with his mate. For several mornings lately, however, the peace of the island has been much disturbed by an old wild gander, who has come regularly to pay his addresses to one of the Geese, and yesterday, succeeded in enticing her away. I saw them go, watched their direction, fetched my gun and followed, but could not get near enough to shoot; I succeeded, however, in driving them back to our own field, and continued the stalk, when I came nearly up with them, the gander, as before, took wing, but the goose did not follow; he flew for some distance alone, but finding his mistress would not come, returned, and fell a victim to his rashness. The two little islands I before mentioned, are each of them large enough to contain the nests of a dozen pairs of Geese, still, so pugnacious are these Canadians, that, when one pair has fixed upon either island to build their nest, they will allow no other Geese to come near, though they will suffer Ducks and Water-Hens to inhabit it with impunity.

We have lately had a great flood here, and one day, while walking with my dog by the river-side, he started a Mouse out of a tuft of grass close to the water's edge, and being closely pressed, the little fellow jumped in, my dog went after him, but just as he was getting near enough to make a plunge, the Mouse, to my astonishment, dived, and I saw nothing more of it.

We have just been taking up some old draining-tiles, which, from some cause or other, had become quite useless; and on inspection, we found that the roots of an old willow had insinuated themselves for a very long distance up the drain, so as completely to choke it, and you might draw them out of the tiles in solid pieces, having somewhat the appearance of peat.

Uppingham, February, 1855.

(To be continued.)

A LIST OF THE ZOOPHYTES FOUND ON THE COAST OF BANFFSHIRE.

BY MR. T. EDWARD.

READER! I have a wish; nay more, I have several; and which, if I could but have gratified, would tend to make me, perhaps, the happiest man alive. Doubtless you have wishes too. It is, or it would appear to be, a natural, or

at least an inherent, principle or propensity in man, ever to be dissatisfied, and always longing for something or other which he has not. The poor wish to be rich; the wealthy pant for more; the honoured desires more homage, and the exalted yearns to be still higher. But, Reader, these are not my wishes. They are these,—and I think I have hinted something of the kind to you before: To possess the wings of a seraph, with the speed of thought; the eye of the eagle by day, and the vision of the owl by night; never to grow weary or tired, so as neither to require slumber nor rest; the properties of the mole; the qualities of a fish; the acquirements of the scholar, and the talents of an author, combined with the gifts of an orator. Then, Reader, then,—if all these gifts were mine,—I would give you, and not only you, but the world at large, something worthy of your perusal, something worthy of fair Nature's self; instead of the vulgar and almost unmeaning scraps which I now pen. I would first soar far, far away, beyond this almost imperceptible speck in Nature's map, and traversing the boundless immensity of space, would willingly scale yon azure vault, where worlds on worlds innumerable roll. And having surveyed them all, and scanned them well, and having visited the workshop of Creation, I would again return, full of the mighty and wondrous things which I had beheld; and which, as we may well judge from what we see and know here below, exhibit the glory, the goodness, and the power of the universal Architect and incomprehensible Author of all,—the God of Nature.

I would then traverse the earth from pole to pole, and from zone to zone. I would also descend into its bowels, and having searched for and procured its mysterious and hidden treasures,—things curious, things old, things lovely and wonderful,—strange relics of periods long since gone by, and of which we know but little, and that little all but conjecture; thus loaded with the spoils of former times, and ages long anterior to the creation of man, I would again come forth. Then would I go down to the ever fruitful and teeming channels of the mighty deep, to search out the numberless and inconceivably curious creatures which inhabit that vast and watery abyss. There would I bask among the inviting groves of Zoophytes, and roam through the forests of Algæ; I would leap among the coralline rocks; would carefully scan the shelly caverns; would tread the slimy path; creep around and over the sandy hillocks; descend to the valleys, among the bleached skeletons of those who have been engulfed by the angry waves, and who there sleep the watery slumber of an ocean death. I would climb the rocky precipice, and the briny mountains; sport in mid water with the finny tribes, and commune with those that love to dwell in old Ocean's darker chambers and hidden recesses.

All this done, then would I pass from town to town, and from city to city, proclaiming that which I had seen of the marvellous wonders of the universe, in a voice that should be heard far above the terrific blast of the war

trumpet, yet tender and inviting as the balmy zephyrs which gently fan the summer's eve. Thus would I seek to create a greater love for the beauties and sublimities of Nature, as exhibited in the handiwork of the Creator.

But as these things cannot be, and trusting that the readers of THE NATURALIST will take the will for the deed, I will now begin my list, already too long deferred; and which, I regret to say, is not quite so systematic as I could have wished.

Alcyonium digitatum, or, as it is called here, dead-men's paps, sea paps, dead-men's shrouds, sea fingers, &c., is frequently brought on shore by the fishermen, in large masses attached to shells and stones. It is curious to observe the strange and fantastic forms which these creatures at times assume. How they are loathed, when cast on shore, by the generality of persons! But were they seen in their proper element and alive, with the beautiful leaf-like tentacula of the little polyps, thousands of which compose the living mass; these feelings of disgust would soon give place to astonishment and delight. Touch one of these polyps, and it instantly contracts and ceases its movements, the tentacula being withdrawn; whilst the others still continue their labours, seemingly unconconscious of their friend's disappearance, or of the annoyance which it had experienced. But continue the irritation, and all will shrink and hide themselves within their fleshy home, which is itself also, and at the same time, considerably reduced in size. Watch well, however, and a sight well worthy of your best attention will, in a little while, greet your astonished gaze. Presently, and gradually, the Pap will be seen to assume its natural size, and the surface all over appear roughish, being then covered with small protuberances. From these asperities the numerous polyps may now be noticed, one by one, slowly and almost imperceptibly emerging; and having gained a sufficient height, their slender and fragile arms, or tentacula, will also be observed cautiously expanding, which when nearly fully developed, gives to the whole mass the enchanting appearance of a bouquet of flowers of the richest dye, or of a gaudy-coloured wreath of beautiful and delicate blossoms, combined in one cluster, and enough to draw wonder and admiration even from the dullest mind.

Alcyonium — (?) A small species, generally parasitical on the stems of other Zoophytes and Algæ.

Alcyonidium parasiticum, as its name denotes; but also, occasionally, on shells and stones. A very dark species.

Antennularia ramosa. Or, as it is called here, sea-beard, lobster's horn coralline. Frequent on old shells from deep water. It is a very pretty species when fresh, or even when carefully prepared; but it is very easily soiled and broken, being very brittle when dried. A fisherman residing in one of our neighbouring villages sent me, a few weeks ago, one of the best and largest groups of this species which I have ever seen. It consisted of four distinct specimens, attached to a large old valve of *Cyprina Islandica*,

and arranged three at regular distances from each other along the margin; and the fourth in the centre of the shell; and displaying from the stem of the four combined specimens, no less a number than seventy-three separate branches, varying from a quarter of an inch up to four and a half inches in length, and exhibiting at one glance, and in one little space, a most beautiful miniature forest. Most unfortunately, however, the individual who brought it on shore had kept it, for several weeks, in a dirty place, previously to his sending it to me, and had otherwise not been very careful of it; so that when it reached me it was much broken and soiled. And although several attempts were made to restore it to its pristine beauty and original standard, all my endeavours failed even to give it a tolerable appearance.

Antennularia antennina, or unbranched sea-beard. Why this species should have been set down as the young of the preceding one, I am at a loss to understand. Setting aside all other distinctions, the slender, unbranched, and tubular stems which are seen to rise from one common root, should be enough, one would think, to demonstrate the fact of their being separate species. One of my girls, a short time ago, found a very pretty specimen of this species, at the place where our fishermen clean their lines. It was quite fresh, having been newly brought on shore. From the root spring slender and tubular stems, the longest being one foot seven inches in length, and the shortest three inches; and forming altogether a splendid specimen.

Campanularia dumosa. A very minute and mossy looking species, frequent as a parasite on *Plumularia falcata*, *Tubularia indivisa*, &c.

C. verticillata. Not so frequent as the former.

Cellipora pumicosa. This knotty, sandy looking Zoophyte, is pretty frequent as a parasite on the stems of several other species; as also is *C. ramulosa*, a more beautiful species, and of more frequent occurrence.

C. Skenii. Frequent on old shells and stones.

Cellularia plumosa. On old shells and stones, and on rocks at low water.

Crisia eburnea. A small but beautiful species; abundant as a parasite on various species of Algæ.

Eudendrium rameum. A large and rather heathery looking species. Rare. On shells and stones brought on shore by the fishermen.

Flustra carbasea. A pretty species; on old shells from deep water.

F. foliacea. Rougher looking than the last, and often met with on the same shell.

F. membranacea. A creeping species, generally found encrusting large masses of Algæ, particularly the massive stem and broad leaves of the tangle; occasionally assuming a rounded form, appearing to the eye, though not to the touch, like *Cellularia plumosa*.

F. Murreyana. Smaller than any of the preceding, and not so frequent.

F. truncata. Or as we have it, common or narrow-leaved sea-wrark. It is the most abundant of all our Flustras, large masses being frequently brought

on shore by the fishermen. The leaves of this species being generally densely crowded together, and forming large clusters, present, in some respects, as rich a field as the stomachs of fishes, more especially when procured in a fresh state. Many of the minute crustacea and testacea, starfish and urchins, have I picked from amongst these treacherous leaves.

Gemmellaria loriculata, or coat of mail coralline. Abundant.

Halecium halecinum. On old shells.

H. muricatum. Rare.

Laomedea dichotoma. This peculiar and thread-like species is pretty frequent with us.

L. gelatinosa. A small species; on Algæ, pretty frequent.

Lepralia hyalina. A very minute species; on the stems of Algæ. Not very plentiful.

L. linearis. Frequent. Encrusted on old shells, and, at times, forming large patches.

Membranipora pilosa. A small species, but abundant. I find it generally on *Furcellaria fastigiata*; in some instances, almost covering the whole plant, and not unfrequently in company with *Grantia compressa*.

Pennatula phosphorea. Sea-fern, sea-pen, and, as our fishermen have it, cock's-comb. This very pretty and peculiar species is, at times, frequently brought in by our fishermen; and, at other times, it is not to be met with. It is, of all the Zoophytes I have as yet met with, the worst to preserve whole and in a good condition; being so full of a peculiarly slimy and glutinous matter, that it is hardly possible to clean the specimen without injuring it. It is doubtless this fluid which gives to the animal its luminous qualities. I have seen it recorded, that this interesting species, like the Gulf-weed, lives and grows unattached, and at the mercy of winds and waves, tossed about over the ocean, at the capricious will of every little ripple. It may be so; for I am totally unacquainted with the fact, or with the generally received opinion on the subject. But how comes it to pass, that the extremity of the central stem or axis, when procured fresh, has always the appearance of an under-ground growth? The centre stem or axis, as is well known, is always, like the rest of the creature, of a reddish colour; but the extremity is always of a yellowish tinge or sickly hue, similar to that part which is under-ground of any single-stemmed plant which grows on *terra firma*. If they are actually a floating species, I should think that they would be a very tempting object to the unscrupulous and voracious Cod. And yet, I have never met with any in his capacious crop.

Plumalaria Catharina. Somewhat rare.

P. falcata. A pretty species, and somewhat forest looking. Abundant. Brought on shore on old shells from deep water. Also, found here amongst the rocks at low tide.

P. frutescens. A dark species. Rare. On old shells from deep water.

P. pinnata. A slender species, and somewhat thread-like.

Retepora Beaniana. A most beautiful and gauze-like species. On old shells. Rare with us.

Salicornaria farciminoïdes. A very delicate and beautiful species; possessed, when dried, of a peculiar and brilliant lustre; having the appearance, when viewed in certain lights, of the twinkling of as many stars. On old shells and stones.

Sertularia argentea. Frequent.

S. cupressina. Rare.

S. filicula. Frequent on shells, &c.

S. fusca. A small, dark, and peculiar looking species. Rare. The specimen here referred to, is in my own collection; and, I believe, is the first of the species known to have been found in this quarter. It would appear, from its root-like fibres, to be a mud-growing species.

S. operculata. Abundant on tangle and the stems of other Algæ.

S. polyzonias. A strange and interlacing little species. Found interwoven among others on old shells, &c.

S. pumila. A small species. Found abundantly at low water, investing almost every available object. Frequent on *Halichondria panicea*.

S. rugosa. Similar to the last, but perhaps not so plentiful.

S. abietina. A full splendid species. Fine large specimens are sometimes brought in by our fishermen.

Thuiaria thuiæ. Or bottle-brush coralline. Another full and truly pretty species, but differing considerably, both in form and appearance, from the former. On old shells from deep water. Rare.

T. articulata. A rather slender species. On old shells. Rare.

Tubularia indivisa. Another peculiar species, from the fact that the long tubular stem has the animal only at its head or top; whilst the others have them all along,—or nearly so,—their whole stems and branches. Often invested with *Campanularia dumosa*, which gives the stem a mossy appearance; as also with *Cellepora pumicosa*, *Tubulipora serpens*, &c.

Tubulipora phalangea. A low hard species. On all shells.

T. serpens. Or horse-comb coral. Frequent as a parasite on the stems of other species. Like the last, hard, but more plentiful.

Our Sponges are few; I have met with:—

Grantia compressa. Frequent on Zoophytes and Algæ.

Halichondria panicea. A beautiful branched species. Rare.

H. ramosa. Luxuriantly.

Though thus obliged to draw to a close, I trust that, although I have no hope of ever enjoying even a day's ramble in Ocean's bed, I shall be able, ere long, to add a few more names to those already given. I shall be on the look-out. And if the Readers of THE NATURALIST will excuse all the imperfections of the foregoing list, I shall, at present, be satisfied.

16, High-Street, Banff, Nov. 27, 1854.

Rebicko.

The Bee-Keeper's Manual. By Henry Taylor. *Fifth Edition*, with One Hundred Engravings. London: Groombridge and Sons. 1855. p.p. 216

THIS very valuable little volume has now reached its *fifth* edition; and the present is not merely a reprint of the *fourth* edition, which we reviewed in vol. i. p. 47, but contains considerable additions of new matter, thus rendering it still more a handbook for the Apiarian. The humane and rational plan of not killing the Bees to obtain their honey, is fully illustrated and proved to be by far the most lucrative system, and the various contrivances to facilitate the carrying out this plan practically are most fully detailed, so that no one need have any difficulty in adopting it in their own Apiary. The whole work is eminently practical, and bears the stamp of many years of patient and well directed investigation into the habits of the little creatures treated of in it. The bar-hive system, by which the Bees are induced to fix their combs to bars easily removed, if wished, is admirably illustrated; and one hive, called the bar-glass-hive, is well worthy the attention of Naturalists, as by it the daily operations of the Bees may be readily observed. Of this he says—

“Before we leave the subject of bar-hives, it may be interesting to give a description of one recently constructed by me for experimental purposes, as referred to in the note at page 50, and here illustrated. It may not improperly be termed a *light* or *observatory* *hive*, in distinction from the usual mode of rendering the dwelling as dark as possible. The hive itself resembles the bar-boxes just described, as to its interior dimensions, bars, crown-board, &c.; but differs, inasmuch as it is made simply as a frame, filled in on the four sides with thick glass, flush with the inside surface of the wood. For the purpose of preventing the Bees from attaching the comb to the glass, thin upright strips of wood, rather more than half an inch wide, are tacked under the centre of each bar at both ends, extending from top to bottom inside the hive. Opportunity has not yet been offered for satisfactorily testing this hive; under any circumstances, however, whether the Bees are exposed to the full glare of light, or only uncovered occasionally, and worked as a common hive, it offers facilities for interesting and instructive observation; but guides or waxed bars must be used to ensure the regularity of the combs, and prevent an obstruction to the sight. The hive ought to be placed in a house, and, in winter, should be carefully covered, an outer case or box going over all.”

Mr. Taylor deserves a *substantial* vote of thanks from both Bees and Bee-Keepers, for his consistent and practical advocacy of their united interests.

Labels for British Star-Fishes; on a sheet. By post, 3d. By George Dixon. Ayton: near Stokesley, Yorkshire.

In a recent number, we called attention to the various valuable and useful catalogues of subjects of British Natural History brought out by Mr. Dixon (see page 163); we now notice his *Labels for British Star-fishes*: They are printed on one sheet, in bold, legible type, in every way suitable for label-

ling collections of this curious tribe. In addition to the Genera and Species, the Orders and Families are also given, so that it forms a completely classified list or guide to an arrangement of the species. The nomenclature is that of the late lamented Professor Forbes. We gladly name this sheet to our readers, who will find it a great assistance in arranging their collections of our Star-fishes.

Miscellaneous Notices.

Heronries.—Add to the list of Heronries, if not already included in it, one near "The Grove," at Pantygoitre, a small one; and a large one at Court-Blethyn, both in Monmouthshire, and not far distant from Abergavenny. This information obtained from the Rev. H. Nicholl, of Pantygoitre.—R. WILBRAHAM FALCONER, M.D., Bath.

A White "Black" bird, and a White Thrush.—I have just seen, at the house of Mr. Atkinson, Queen-Street, Hammersmith, two interesting birds,—one of them a very scarce specimen. Both are alive, and moulting freely. They are perfect Albinos,—their feathers being milk-white, and their eyes pink. The "Black" bird is very pretty, and very tame. It was taken from the nest, and was the only one of five that differed from the ordinary character. The same with the White Thrush. This last is a truly symmetrical bird; and being very rare is possessed of a more than common value. Both are for sale. The price demanded is eight guineas for *the two*. I register this early in your columns, *pro bono*.—WILLIAM KIDD, Hammersmith, Sep. 1st.

Note on the Wokhab, or Ukab.—Lieutenant Burton, in his interesting little work on "Falconry in the Valley of the Indus," calls the Ukab, which attacks trained Falcons, a Vulture. This is questioned in the review of his book in the "Zoologist;" and I find, on reference to the "Catalogue of Birds in Mus. E. I. C.," that it is the *Aquila naevioides*, Cuv. sp. Mr. Jerdon (Madr. Journ. L. C. vol. x. p. 68,) says:—"From Mr. Elliot's 'Notes' I extract the following: 'The Wokhab is very troublesome in hawking after the sun becomes hot, mistaking the jesses for some kind of prey, and pouncing on the falcon to seize it. I have once or twice nearly lost Shahceens (*Falco peregrinator*) in consequence,—they flying to great distances from fear of the Wokhab.'"—JOHN CAVAFY, Westbourne Terrace, London, Aug. 8, 1855.

Sea Swallows (Common Terns) lay their eggs on the shore of the Tees. I got several eggs last year. In 1852, I saw upwards of a hundred nests, with three eggs in each. The eggs were on the ground, just above high-water mark. But they do not breed there regularly. Some years, there is not an egg to be found. I have never observed the Terns sitting on their eggs. Quails breed here, and stay all the year. I have a fine male in my possession, which was captured in January 1852. Several Quails were shot during

the last winter. I found the nest of a Hedge Accentor last year, which contained five eggs. One of the eggs is much smaller than any egg I have ever seen. The other four eggs are the usual size.—THOMAS BEDLINGTON, Commercial-Street, Middlesbro', Aug. 6th, 1855.

Cuckoo attending to its own young. In 1850 a friend of mine captured an adult Cuckoo (*Cuculus canorus*) on the nest of a Tit Lark, (*Alauda trivialis*,) which nest contained a young Cuckoo that appeared to have been hatched three or four days; the Cuckoo was captured by my friend putting his hat over it, as it was sitting on the young one; the nest did not contain anything else. He carried both the birds home; the young Cuckoo soon died, and the old one made its escape after it had been in confinement about a week. The Cuckoos were captured on the Durham side of the Tees, about half a mile from Middlesbro'; I saw both the birds, and am quite certain there is no mistake.—IBID.

Thrushes and Starlings Feeding upon the Backs of Sheep.—In No. 54, August 1855, at page 189 of THE NATURALIST, a correspondent gives his opinion that Thrushes and young Starlings feed upon the backs of sheep. As my own observations, for many years, lead me to a different conclusion on this point, I forward the following remarks, which, if you see that they are of any use in aiding the cause of Natural Science, perhaps you will give them a corner in your Magazine. I have for many years noticed the Thrush and Starling frequently on the backs of sheep and cows; invariably at the season of building their nests; seldom young birds, but old ones. I was for a considerable time before I could clearly satisfy myself what these birds were engaged in. Here, however, where I have resided for more than seven years, and where both birds are quite common, ample opportunities have been afforded me of more close inspection, and of forming a decisive opinion. Last season, and the preceding, I watched those sweet warblers with interest. Sometimes one, two, and even three, could be seen upon the backs of sheep and cows in our pastures, busily engaged picking out the wool from the former, and the fine root hairs from the backs of the latter. Sometimes the animals became restless, and the birds were compelled to fly off. They generally rested, however, a few yards beyond, and so soon as the animals settled again, they resumed their work; and after having got their bills pretty well filled with wool and hair, they flew off to where they were building their nests. The Starlings make their nests in deep decayed holes in some old trees near my cottage, and the Thrushes in the surrounding plantations I have repeatedly examined those nests at this time, and found them built with hair and wool. Another bird frequently seen upon the backs of sheep and cows, here, is the Jackdaw, which, being a stronger bird, appears to annoy sheep and cattle much. This bird builds its nest in chimneys, and in holes in the old trees previously mentioned.—J. L. C., Argyleshire, August 30th, 1855.



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It is requested that all Communications be addressed in future to B. R. MORRIS, M. D., 38, Fawcett-street, Bishopwearmouth, Durham.

NOTICES TO CORRESPONDENTS.

Communications have been received up to October 20th, from Mr. M. WATCOTT—J. B. DAVIES, Esq.—H. H. H.

Contributions have been received up to October 20th, from E. WOOD, Esq.—W. KIDD, Esq.—Mr. T. BEDLINGTON—Rev. F. O. MORRIS—JAS. DALTON, Esq.—T. S.—J. BROWN, Esq.—Mr. T. EDWARDS—A. LUCAS, Esq.—W. BRIDGER, Esq.—T. G. BONNEY, Esq.—W.—F. M. BURTON, Esq.—G. STOCKLEY, Esq.—G. DONALDSON, Esq.—R. HOBSON, Esq.

If H. H. H. will address a line to E. Charlesworth, Esq., Museum, York, he will probably get all the information he requires.

We have just received notice of the occurrence of a specimen of the Esquimaux Curlew (*Numenius borealis*) in Scotland. The particulars will be given in our next.

ERRATA: Page 228, line 6 from bottom—for dust, read rust.

„ 229, „ 11—for these offer, read there appear.

„ ib., „ 16—for name, read named.

„ 231, „ 4 from bottom—for Mc Gillavey, read Macgillivray.

Infusorial Earths.—Dr. Morris would feel greatly obliged to any one who would favour him with specimens of any Infusorial Earths, mounted or unmounted; and would endeavour to make the best return in his power.

Bishopwearmouth, August 1855.

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NOTES ON THE ROOK. (*CORVUS FRUGILEGUS*.)

BY S. STONE, ESQ.

FROM OBSERVATIONS MADE DURING THE LATE FROST.

BY JOHN S. STONE, ESQ.



On the 15th ult., a dense fog prevailed, with a frosty air, which had the effect of incrusting the branches of trees and shrubs with rime; thus forming one of those charming scenes with which, when the sun breaks through and dissipates the mist, we are sometimes in winter indulged, as a set-off against the general dreariness and gloom of that season as compared with the other quarters of the year. From circumstances like this, encouragement may be derived, and a profitable lesson drawn: we may learn not to despair when either our temporal or spiritual prospects appear dark and gloomy; for as the fog lent its aid, and indeed was indispensable, in the production of a picture of extreme purity and beauty, so may the darkness and obscurity in which we find our prospects enveloped, be the very means of their becoming brighter and more glorious than before. We are assured that "all things work together for good" to those who love God. Often, too, are we shown, that "out of evil" He can "bring forth good."

In the evening, the fog continuing, and even increasing in density, a large flock of Rooks, numbering upwards of a thousand, took up a position in the rookery at Terriek House, where they remained during the night. This circumstance was not much to be wondered at, seeing that the prosecution of an aerial voyage in such a state of the atmosphere, would have been about as discreet an undertaking as a voyage across "the pathless deep" without sun, stars or compass to steer by: to have foretold the result in either case would have been easy enough, and that without the aid of astrology. It did, however, occasion much surprise, when, the next evening, they again made their appearance, and again composed themselves for the night. This they have continued to do regularly from that date to the present time. Whether they intend to make this a permanent roosting place or not, remains to be seen; but from its proximity to a public road, and the trees being but few in number, and occupying but a very limited space in comparison with the usual roosting places of this species, I think it unlikely that they will long continue their nightly resorts to it; their having done so at this season, or during any, except the breeding season, is an extraordinary--and, as far as I am aware--an unprecedented circumstance, and therefore worth placing on record.

On the morning of the 2nd inst., four of these birds were found lying dead under the trees. On the 3rd, seventeen, and on the 4th, eighteen more were found. Suspecting that they had been poisoned, my brother opened several of them, when the cause of death was fully explained: there were no traces

of poison to be discovered, but like many, too many of our brave fellows in the Crimea, unless rumour has in this instance maintained the character she of old acquired—and let us hope, for the sake of humanity, that she, in some measure at least, may have done so—they had been rendered, by the want of sufficient nourishment, incapable of battling with the cold, and accordingly had, between the two, been compelled to succumb,—their crops containing scarcely a particle of food of any kind.

It may be remarked, that the ground had been covered with snow since the 18th ult., and on the 28th, a self-registering thermometer, which was placed in an exposed situation near the ground, within a few yards of the rookery, shewed that the temperature had, during the previous night, been as low as 11° Fahrenheit, being 21° below the freezing-point. On the 1st and 2nd inst., it was found to have been 17° below freezing. On the 3rd, a partial thaw took place, which had the effect of clearing the ground of snow to some extent, when the mortality among the Rooks ceased for a short time. On the 8th and 9th, more snow fell, and on the morning of the latter day, four more Rooks were found to have perished. On the 10th, the thermometer had marked 8°, and the lives of fifteen more Rooks were sacrificed, and their dead bodies picked up under the trees. One individual was found with its head under its wing, as though death had overtaken it in its sleep; it would also appear to have become rigid and stiff, probably frozen, before it fell from its perch: several more were observed to leave their roosting place in the morning in a deplorably weak, and well nigh famished condition; when, in order to mitigate their sufferings, and arrest, as far as possible, the progress of that dreadful mortality which threatened to decimate their numbers, my brother commenced strewing food for them in an adjoining field; they fought shy, he tells me, of this proffered kindness at first, appearing strongly to suspect that some *foul* play was intended; at length, however, the horrors of famine prevailed over their other fears, which they have now given to the winds; and day by day may be seen discussing, with the greatest composure, and an equal degree of relish, their morning or evening meal.

I am happy in being able to record that my brother attained the object he had in view in providing them with food; for although a few more victims were afterwards discovered, they were evidently such as had become so much exhausted previously as to be past recovery. The only thing to be regretted is, that, as an agriculturist, and therefore having a particular—by which may be understood a pecuniary—as well as a general interest in the well-being of the Rook, he had not had recourse to this expedient sooner, as a still greater number of *valuable lives* might then have been saved. He had, from the commencement of the severe weather, provided for the wants of the smaller birds, but had not dreamt that the Rooks would have required assistance at so early a period of the frost; their having been reduced to the starvation point, in so short a time after the appearance of rigorous weather, is a most

unusual circumstance, and can only be accounted for from the fact that the weather, for a very long period before the frost set in, had been of an unusually dry character, so that there had been a great scarcity of the kind of food the Rook mostly depends upon—such as worms, &c.—long before the supply was cut off by the frost, and still more completely by the snow.

On the evening of the 11th, the snow had been driven by the violence of the wind from off the open fields into the roads and hollows, where it had accumulated in such immense and overwhelming masses, as utterly to impede travelling for several days, until a passage had been cut through it; but making ample amends for the inconvenience it caused, by the peculiar and extraordinary beauties it displayed,—the wind, in its eddying course, causing it to assume every possible variety of form, often of the most fantastic kind. In some instances, beautiful architectural designs might be traced. Arches were reared, tunnels were formed, and such a variety of wonderful devices exhibited, as could not fail to arrest the attention, and excite the unbounded admiration, of every lover of the beautiful in Nature, who might have the good fortune to behold them. The whole forming a companion scene to the one briefly noticed at the commencement of these Notes, but far exceeding it in grandeur and sublimity. The cold had increased since the previous day, the thermometer having this morning marked 6°. From this date, there was but little variation in the temperature until the 18th, when the frost attained its greatest intensity, the mercury having fallen exactly to Zero. At this time, the cold was, and had been for some days previously, of the most searching character, freezing both by day and night, even in rooms in which constant fires had been kept. It now began gradually to decrease, as indicated by the thermometer, till on the 24th a rapid thaw commenced, which has since continued and appears to have become general; and thus has ended as interesting, if not as severe, a frost as it has been my lot to remember.

The rookery here has been for some years in a thriving, and latterly, in a rapidly increasing condition. Ten or twelve years ago, there were but about forty nests. Last year, they numbered two hundred and thirty-seven; and it is to be hoped there will, this year, be a further increase, notwithstanding the recent mortality which has occurred. A rookery is not only productive of infinite amusement to those who may be located in its vicinity, but by attentively observing the habits and manners of its sable inhabitants, it may also become highly instructive. It will not fail to be perceived, that although occasional squabbles take place, yet, upon the whole, a degree of order is observed which even the best forms of government among ourselves fail to produce; the occupants of each nest are mostly seen quietly attending to their own affairs, without intermeddling with those of their neighbours, which is a great deal more than can be said of any community of men, or women either. And then the unbroken, unchanging affection which is seen to exist between husband and wife, parents and offspring, indicates a state

of connubial felicity which we may well aspire to ; but which, fallen and depraved as we are, inheriting as we do a corrupt nature, slaves as we are to evil passions, indulging as we do in vicious propensities, addicted as we are to excesses of every kind, we cannot expect to attain. Note with what constancy the male bird attends to his *dusky* partner while engaged in the task of incubation ! How faithfully he supplies her wants ! And mark, when the young are hatched, how unremitting is the attention bestowed upon them by both the parents ! Day and night they are the objects of their affectionate and unceasing solicitude. Mark, too, with what unmistakeable signs of gratitude the attentions of the parent birds are received. How tremulous becomes each little voice, as though the utterer were overcome with emotion, while expressing its thanks for the food lovingly brought and administered to it ! How reproachful to us must be the sound ! Who can listen to it and not be made to feel that, in point of gratitude and filial affection, man is infinitely exceeded by "the fowls of the air ?" God's severe, but, we may be sure, just reproof of his chosen people,—“The Ox knoweth his owner, and the Ass his master's crib ; but Israel doth not know, my people doth not consider,” may as justly apply to us. We go on, regardless alike of judgments and of mercies ; exhibiting in our conduct no dread of the one—no thankfulness on account of the other.

The voice of the Rook is capable of great expression, independent of its change of tone with the change of season : this any one may remark, as my brother informs me he has often done, by lending an ear to the bird's dismal croak on a miserably cold and stormy day in winter, and then contrasting it with the cheerful “caw” it gives utterance to when the weather is calm and fine at that season. The former note as clearly expresses the bird's feelings as though she articulated the words—“Dear me ! what an uncomfortable day to be sure ; it may be wrong to complain, but really it makes one feel extremely wretched.” And the latter note as plainly as though she delivered herself of this strain : “Well, this is delightful weather for the time of year ! beautiful ! I quite enjoy it ! It makes one feel ‘uncommonly jolly.’ But that I do not happen to possess a musical voice, nor belong to a musical family, my feelings would vent themselves in song.”

My brother has remarked it as strange, that although, during the late visitation, many dead bodies were left suspended among the branches of the trees, the survivors appeared to take no notice whatever of them ; this, he thinks, is to be attributed to the instinctive knowledge these birds must possess, that death had resulted from natural causes, and in this I quite agree with him : for had it been produced by violence, the sight of the dead bodies of their companions would have occasioned no small amount of consternation, a general commotion, and no end of uproar ; there would have been literally “a row in the rookery,” and “a jolly row” too.

It is worthy of remark, that although a number of Jackdaws, as usual,

attended this flock of Rooks, sharing their "bed and board," not one of them was found to have perished. Did a light heart carry our friend Jack through? Light-heartedness is known to go a great way, as it also did in Shakspeare's time; thus one of his characters, Antolycus by name, in the Winter's Tale, Act 4, Scene 2; sings, or did sing,

"A merry heart goes all the day,
Your sad tires in a mile-a."

And a right merry heart has Jack, if his incessant chatter may be deemed sufficient evidence. As the Barrister before the Judge, so the Jackdaw in presence of the staid and sober Rooks, although he may fail to rivet the attention, will nevertheless be sure to succeed in making himself heard. And to carry the parallel a step further: if the loquacity in the case of bird or Barrister does not altogether interest or amuse the hearer, it at any rate serves greatly to amuse the utterer, if we may be allowed to judge by the self-complacency which usually accompanies its delivery.

In concluding these Notes, I would offer a remark or two upon those annual exhibitions which take place at most rookeries—the massacre of the young birds. There are among us time-honoured customs which we should regret to see discontinued; but assuredly this is not of the number, for of this it may truly be remarked—

"It is a custom
More honoured in the breach than the observance."

Rook-pie may, for aught I know, be all very well—very savoury, and very delicate eating; and equally savoury, for anything I know, may be a steak from off a nice fat specimen of that docile and beautiful creature, the *Equus caballus* of authors. I am *not* sorry that I cannot speak with certainty or from experience upon this point. One great objection, perhaps not the only one, to the flesh of this creature being cut up into steaks, made into pasties, or converted into sausage-meat, is, that the services of the animal render it far too valuable to be slaughtered for the purpose; though, as regards the latter-named article, there are, it must be acknowledged, persons of a suspicious turn of mind, who are unreasonable enough to harbour the absurd notion, or people who are mischievous enough to hint at the possibility that, when casualties occur, some little traffic in this Equine "*matière*" may be carried on between those respectable gentlemen and accomplished "*artistes*" professionally termed Knackers, and the equally respectable and not less accomplished vendors of sausage-meat. I have but one remark to make upon this delicate subject—a subject I should not have ventured to introduce, but that, by its introduction, an opportunity is afforded me of making the remark—which is, that if the services of the Rook were properly understood and appreciated, the very same objection to its being made into pie would be found to exist, as exists in the case of the four-footed animal

previously alluded to,—its valuable services would cause it to be considered *far too expensive an article* for the purpose.

What intense agony must the fond parents endure on witnessing the wholesale slaughter of the scarcely-fledged young birds, whose bodies, according to annual custom, are made to serve as targets for the merciless gunner to practise upon. How terrible to the sight must be the flash! How dreadful in the ears of the unhappy parents must sound the report from each piece, followed as that flash and that report is, by a scream of pain from the wretched victim, as with convulsive energy, or with the tenacity of despair, it clutches and clings to the branch previous to its fall. How must the sight of the bleeding bodies of the young cause the hearts of the parents to bleed! Poor persecuted birds! Methinks I hear ye exclaim, in the bitterness of your grief and distress, as ye wheel round and round in circles, powerless to save or even to aid your hapless offspring,—Monsters of ingratitude! is this the return ye make us for the unnumbered benefits we daily and hourly bestow upon your race? Is it for this we have cleared your fields of grubs, and thus prevented the destruction of your crops? Was it to have our little ones murdered in cold blood, their bodies pierced, their limbs broken or torn asunder, that we nursed, tended, and fed them—fed them with the very creatures which, if allowed to multiply and increase without interruption, would have worked your utter ruin. Oh! ingrates as ye are, and blind to your own interests! from the height at which we soar above you, we look down with amazement and horror!—horror at the bloody deed, the heartless, wholesale murders ye are committing; and amazement at the reckless folly, the despite to yourselves ye exhibit in that deed. But for the horrible outrage upon us, in the cruel destruction of our unoffending offspring, of which ye are guilty, we could almost find it in our hearts to pity you. Revenge is not in our nature, nor have we need of revenge. Acts of cruelty, deeds of blood, have at all times, and will to all time, avenge themselves. The massacre of our little ones will be amply avenged—avenged in the failure of your turnip, mangold, and other root crops, from the ravages of myriads of Grubs and Caterpillars, whose numbers these little ones would have kept down, had ye not ruthlessly destroyed them. Avenged in the loss of your cereals by whole armies of Wireworms attacking the root. Avenged by troops of Slugs destroying the blade and young shoots of your plants. And when this has come to pass, ye will perchance repent you of your cruelty, your rashness and folly; and while mourning over your own loss, will peradventure bethink ye of ours; and wish that ye could restore the life which God, for your benefit, graciously “gave,” but which ye, with the basest ingratitude, and most wanton cruelty have “taken away.”

February 27th, 1855.

DOMESTIC PETS.—THE COMMON SQUIRREL.

BY WILLIAM KIDD, ESQ.

HARD is that heart by nature, and unfit
 For human fellowship, (as being void
 Of sympathy, and dead alike
 To love and friendship both,) which is not pleased
 With sight of animals *enjoying life*,
 Nor feels their happiness augment his own.—COWPER.

A MONTHLY gossip with those who love God,—and, by a natural consequence, his creatures,—is a treat to *me* of the highest order. I say monthly, because unfortunately, THE NATURALIST is published at that needful interval of time; and is the *only* existing work that I am acquainted with, which combines a love of nature with profound reverence and a child-like filial fear for the great and good Father, by whose liberal hand we are all so bountifully supplied, and our lives rendered happy. The love of God does indeed bring with it that “peace which passeth all human understanding!”

Imagine me, then, on the morning of last “Magazine-day,” presenting myself (soon after eight) at the door of my London bookseller for an early copy of THE NATURALIST. Still further must your imagination extend. You must behold me, in your mind’s eye, hieing off, well pleased with my purchase, to the Harrow hills. There, seated in the churchyard on an elevated tombstone, which I selected for its sentiment—there was engraven on it “God be merciful to me a sinner!”—did I let my thoughts nestle between your two (ever)-green leaves; looking round, from time to time, upon seven distinct counties that lay immediately below me. What those thoughts were, collectively and individually, you cannot know,—simply because my pen is unable to trace them on paper. Suffice it, that though they are not transferable, yet were they truly delightful. I felt purely happy myself, and yearned to make all the world (if possible) sharers in my happy feelings. This is an enviable frame of mind to be in, and *not* always to be commanded at will. Alas, for our selfishness; that too often blinds us to our very best interests!

The morning was one of great beauty; the mighty sun had done his part in dispersing early the dews of the previous night. The birds (recently clean moulted) were abroad, singing their anthems *sotto voce*. The Robins (my special pets) were, of course, my musical body-guard. The air was pure, the landscape “ever changing—always new,” the trees slightly bent before the whispering winds; and ever and anon some simple specimen of Nature’s lovely wardrobe (now gradually being laid aside as no longer wanted) fell listlessly at my feet. A holy calm one moment, was broken through the next by a passing breeze, which, gently fanning the cheek, imparted to it the natural glow of health. Here, then, “I and Nature sat.” Leaving you to picture the pair of us enjoying THE NATURALIST in company, let me now

offer a few comments upon one of its Papers,—the opening one, which treats of the Squirrel. I am anxious to secure a patient hearing, whilst I enlarge a little upon his good qualities; also to enter upon a friendly defence of what our good friend, Mr. McIntosh, so remorselessly repudiates under the cognomen of “treadmills.” Gently, good Sir; gently!

The Squirrel (*Sciurus vulgaris*) has ever been one of my special pets. My habitation is ornamented by a variety of his tribe, formerly choice companions of many a happy hour, but now alas! looking down with inexpressive eyes from behind a screen of transparent glass. There they hang—“*in memoriam!*” Nor would I remove any of these, or other of my much-loved pets, thus embalmed for memory to dwell on. They recall “the light of other days” so sweetly, that I seem, while gazing on them, to live *that* part of my happy life over again.

Pets of all kinds are to be commended, whether they be selected from the lower World or the higher. We must love *something*. And the more of loveable things, the better, say I. Our hearts were *made* to love. Love is the fulfilling of every law—human or divine.

But of “dumb pets indoors” I am becoming shy. They generally meet with some sad fate, and it is disastrous to see them perish without being able to save them. I cultivate them now in *the garden*; invite them to enter my window, and to make my house their home. “Tenants at will” are they. They enter and depart as their fancy dictates. I love my little guests dearly, and they love me; and as the season is now at hand when I shall have lots of them to provide for, my Christmas will (D.V.) pass merrily. But to the Squirrel.

Let all your readers who would have a pet Squirrel, procure a *young one*. Those sold in our London streets, and by tricky dealers, are, for the most part, *old ones*, with *their teeth filed down* to prevent them biting. They are of a spiteful disposition, and not easily reconcilable to a cage. Young ones are readily tamed by a person possessed of an affectionate heart; and once tamed, they are won for ever. Their master or mistress may do anything with them. They will take no offence, show no resentment, but bear *all* in good part. Who amongst *us* will submit to teasing thus patiently,—and show a loving spirit under similar provocation? Should *we* not bite? Question!

In my earlier days, whilst leading a life of single-blessedness, and keeping house on my own account, I made Squirrels my associates. They had the free and undisturbed run of my bachelor rooms. And fine games they played up! My newspapers were, of course, reduced to the smallest of “vulgar fractions,” and scattered all over my Turkey carpet. All sorts of small ornaments were transferred from the mantel-shelf to the top of my long crimson curtains; lumps of sugar were planted in every conceivable odd corner; bread, butter, and biscuits, too, were ever discernible behind the cover of

some book. I pretended, of course, to punish the offenders, and tried to look angry,—raising my voice as if in fury. A long wand of cedar in my hand, gave warning of the rod in pickle. But who *could* be cross with such merry little tricksters? Not *I*. So whistling to the little offenders, a signal that they might descend, (they invariably flew for refuge into the tops of the crimson curtains,) down they would come to breakfast, dinner, or tea; first running along my arm, and licking my cheek with fond affection and a very rough tongue. To describe the gambols and playfulness of my little friends would be impossible. They were as varied as, to me, they were delightful. One of my pets was always to be found under my pillow, whither he retired, *à la bonne heure*, accompanied by two or three Spanish nuts. On going to roost, I looked for my silk-coated playfellow as a matter of course; there he was, tucked up so cosily beside his nuts! A kiss from him was indispensable; and I returned it with interest before placing him in his own little bed for the night. Did we *not* love each other!

Here, let me observe, that the Squirrel can be, and is, very spiteful, if teased or annoyed by a stranger. A cruel boy or girl playing any tricks with him, would pay a severe penalty for their rashness. I always encouraged my Squirrels to defend themselves in this way; and never punished them for practising, successfully, “the art of self-defence.” When they *do* bite, be it known, it is “Skuggy—*his* mark!”

Not being willing to trench too much upon your valuable space, I will now cry a truce to anecdotes (how many hundreds could I relate!) of the Squirrel, and say a few words about the rotary cages against which Mr. McIntosh and Sir George Head have spoken in such dispraise. I do so deferentially to those gentlemen, and would modestly give my reasons for a difference of opinion.

The Squirrel is a lively animal. In a state of nature he is for ever flying from tree to tree. A life of quietness is to him a life of misery. Mercury himself was never more mercurial. I have tried the “quiet house,” alluded to by Mr. McIntosh. The inmate has scaled its walls, turned somersaults in it, exerted all his powers to create a perceptible movement in it. Disappointed and vexed, I have ever found him retire to his inner chamber, and there *mope*.

To satisfy myself fully on this point, I have frequently placed cages of both descriptions on the floor; first letting all my playfellows scamper off in the wild pursuit of liberty. Anon, I have seen them return, one by one, to the rotary cages, and therein perform, with the most evident delight, a series of revolutions at railway speed. All this testified the immense pleasure they derived therefrom. They sought it *eagerly*, constantly, and habitually. Their performances over, they would stop the wheel, run up my legs, salute my cheek, and dance a minuet on my head.

The cruelty of a rotary cage consists in placing a *wild* Squirrel in it, and

then terrifying him whilst he plies the wheel; thus perpetuating its first impression, which is that of *terror*. Accustom your little harlequins to gymnasticise in these rotary cages, and only see how they will enjoy the idea of showing off their powers of locomotion!

I cannot conclude this Paper, without cordially thanking Mr. McIntosh for his unwearied exertions in exposing the ignorance of those people who *will* write and tell of what they do not understand. The Squirrel carnivorous! What a monstrous idea! No, no. Give him nuts, apples, and fruits of all kinds, and he will never "make a beast of himself."

I only wish that *our* race were equally clean feeders,—equally temperate, equally rational and affectionate; and, let me add, equally good companions. Truth compels me to say, that in the lower World I have often found *much* better company than in the higher. And for affection,—give me, all the World over, that of a bird or dumb animal before any other. It is as constant as it is disinterested; and it may at all times be depended on. Meet when you may, you are *always* welcome. Time only adds to this affection in all its purity.

Who of us dares say as much for the affection of any human being? I ask a question to which I shall, alas, never receive an answer!

New Road, Hammersmith, Oct. 17th, 1855.

CRESTED CARIAMA. (*CARIAMA CRISTATA*.)

BY MR. J. O. HARPER.

THE general colour of this bird is an earthy brown on the upper parts, with fine zigzag markings of a darker tint, while the lower parts are white; wing-feathers blackish, finely barred with white lines, dotted with black; beak, coral red, a light crest, consisting of a few disunited feathers, forms an ornamental tuft on the front of the head, and advances on the base of the bill, overshadowing it; space around the eye naked, colour of which is light blue, this nakedness reaching nearly to the upper mandible. Iris yellow; the upper eyelid is fringed with long dark lashes; and the neck of this bird is furnished with elongated loose barbed feathers, which it has the power of elevating to a considerable extent when excited or frightened. The legs are very long and slender, toes short, hind toe minute and placed rather high up the tarsus. Tail of moderate length and rounded. Tarsi and toes orange; claws black. Total length of this specimen, thirty-three inches.

Habits. It is perhaps between the Screamers, Trumpeters, (*Psophia*), and the Cranes, that this remarkable bird must be placed. Inhabiting the great solitary mountain-plains, surrounded by forests, which extend over a large portion of Brazil, yielding a dwelling-place to this bird (it is also found, but more rarely, in Paraguay) where its loud sonorous voice breaks the silence of the desert; it is almost always on the watch, and very difficult to approach; it is also an extremely shy bird, stalking slowly over the plain, it descries some intruder at a distance, and in a moment decides that it will remain or fly. Those who have had the best opportunities of observing these birds in their native wilds, assert that their capture is accomplished with considerable difficulty: as soon as it perceives that it is pursued, it sets off with great rapidity followed by the horseman, and, like the Ostrich, so rapid is its course, with many turns and windings, that it is not till after a long pursuit, that the bird, wearied out, crouches or hides itself in some friendly bush or tree,—and till such time as this happen, the pursuer in vain seeks to use his fowling piece or lasso.

The Cariama is said to feed on reptiles, insects, and seeds in its wild state, but in confinement, it will not refuse Indian corn, and, occasionally, small pieces of flesh. It flies badly, and rarely (if closely pressed) takes wing. Wild as this bird is, it is easily domesticated, and peaceably associates with other tenants in his cage. The flesh is described as palatable; it is however rarely used as food by the Brazilians.

The nest is said to be composed of dry sticks and branches covered with dung, and placed upon a low or moderately high tree. The eggs are generally two in number, sometimes, but rarely three, and white.

Digestive organs. The tongue of this bird measures one inch and a quarter in length, being rounded at the tip and horny, having a row of papillæ at its base, and measuring in width at this part, four-twelfths of an inch.

Trachea, in length, nine inches and a half, six-twelfths of an inch in breadth at its commencement, continuing the same calibre to the extent of its cartilaginous rings; the remainder of trachea of nearly equal breadth, (which is about four-twelfths of an inch,) having two powerful muscles attached at about a quarter of an inch above its bronchial division.

Bronchi composed of twelve distinct rings.

Hyoid bones greatly developed, with powerful muscles attached.

Œsophagus extremely villous, of nearly equal circumference through its entire length (measuring, when distended, three inches.)

Proventriculus belt one inch and a quarter in depth, the glandules of which are highly developed.

Gizzard of moderate power; in length two inches and a quarter, width one inch and a quarter, depth one inch and eleven-twelfths of an inch (this organ, upon dissection, contained several large stones, swallowed for the purpose of aiding digestion.)

Pylorus situated immediately behind the latter organ.

Length of intestines two feet six inches, of small and nearly equal calibre through their entire length, measuring at their extreme breadth, four-twelfths of an inch.

Cæcal appendages highly developed, varying from eight-twelfths to five-twelfths of an inch when inflated : in length seven inches and a half ; in form they are first bulging, then contracted—again bulging, then contracting again.

Cloaca not examined, being injured by decomposition.

Osteological peculiarities. The skeleton of this singular bird may be said to be composed of four distinct orders of birds. The cranium is similar in form and character to that of the Golden Eagle, rather longer in proportion to its breadth ; the upper mandible is much hooked, and slightly overlapping the under. Nostrils oval, septum dividing the orbits perforated by a single oval foramen ; the bone extending from the base of the beak, to be attached to the os quadratum, (by some, termed the zygomatic arch,) is slender, particularly so in its centre ; supraocular bone prominent ; length of entire cranium, four inches and four-twelfths of an inch ; beak one inch and a quarter, breadth across frontal bone one inch and a quarter ; occipital region prominent. Cervical vertebræ thirteen in number, (including the atlas,) the bodies of which are stout and broad,—the first four rather short, the remainder elongated, having rather long transverse processes. Dorsal vertebræ six in number, the fourth and fifth ankylosed at their upper extremities. Caudal vertebræ eight in number, the last very broad, flat, and triangular. Ribs seven in number on either side, the first extremely small, the second one inch longer than the former, these are rounded and free ; the remaining five, with their sternal portions, are stout and broad, the inner processes of medium size and ankylosed. There is also a rib, in a rudimentary state, attached to the sternal portion of the last rib which has no process. Sternum, in profile, resembling that of a Macaw, having its crest elevated, body broad, posterior margin narrow, and perforated by a single sinus on either side, which is filled with a membrane. Furcula weak, the curve of which is directed outwards, having no process at the union of its crura ; clavicle short, stout, and spreading little ; scapula broad, short, and abruptly rounded at its extremity. Bones of the wing similar in form to those of the common Pheasant ; femur stout, rounded, nearly straight ; tibia very long, fibula gradually tapering and extending four and a half inches on the outer side of the tibial bone ; tarsus of nearly the same length as the tibia, depressed and nearly straight ; three toes before, with a minute one behind placed about one inch and a half up the tarsus, all furnished with claws, which are long and much curved.

Length of	Inches.	Length of	Inches.
Cervical Vertebrae	7 $\frac{3}{4}$	Femur	3 $\frac{1}{4}$
Dorsal „	3	Tibia	8
Caudal „	2	Fibula	4 $\frac{1}{2}$
Sacrum	3 $\frac{1}{4}$	Tarsus	7 $\frac{1}{4}$
Clavicle	2	Middle Toe . 2 $\frac{1}{2}$ in.	Claw . 1 $\frac{1}{2}$
Sternum	3 $\frac{5}{8}$	Outer Toe . 1 $\frac{1}{4}$	„ . 1 $\frac{1}{2}$
Humerus	4 $\frac{1}{8}$	Inner Toe . 1 $\frac{3}{8}$	„ . 1 $\frac{1}{2}$
Radius	3 $\frac{1}{2}$	Hind Toe . 0 $\frac{1}{2}$	„ . 1 $\frac{3}{4}$
Ulna	3 $\frac{3}{4}$		
Metacarpal Bone	1 $\frac{3}{4}$		
1st digit	0 $\frac{1}{2}$		
1st phalanx	0 $\frac{3}{4}$		
2nd „	0 $\frac{1}{4}$		

NOTICE OF THE SPECIES OF CARABUS, OCCURRING AROUND LONDON.

BY G. STOCKLEY, ESQ.

IF this notice should prove acceptable to the pages of your interesting publication, in my next communication I will forward a similar one of the species of *Chrysomela* and *Coccinella*, that I have met with in the same locality.

Of the sixteen species of this genus, according to Shuckard, (seventeen of some authors,) I have met with but eight in my rambles in this vicinity, which I have assiduously examined; for the order to which they belong was, I believe, about the first that engaged my attention in this instructive pursuit, as it has doubtless done many of your readers, often, perhaps, on account of the facility of their capture and preservation.

Carabus violaceus. A pretty generally distributed species, occurring more in lanes and meadows than woods; not uncommon at the foot of old walls around fields.

C. nemoralis. In this locality, a very abundant species; common in lanes in spring and autumn.

C. catenulatus. A very common species in woods, as the former is in lanes. In March 1847, I found about a dozen hibernating at the root of a tree in Hainault forest.

C. monilis. Common at the foot of old walls, lanes, &c., especially in autumn.

C. consitus. Found in company with the preceding, which it somewhat resembles, but is smaller. It appears to be scarce in this district.

C. granulatus. This species appears to be confined to marshy districts, as those around Hackney, &c. I have never yet met with it in lanes, except bordering on such localities, where it is certainly not common.

C. arvensis. This pretty insect occurs in May, on Wanstead Heath; the only spot where I have as yet observed it, and there but sparingly.

C. purpurascens. It was in the spring of 1852, when I first met with a species, in a field by Temple Mills, which I take to be this insect. It is a very handsome specimen, and agrees somewhat with the description of the same as figured and described in the second number of the "Cabinet of British Entomology," but not with the figure; which, if the blue edging was taken from the thorax, would not be unlike the *C. violaceus*. But it is not to be wondered at, when we consider the difficulty of conveying the delicate tints of Nature to paper, even in the higher department of her works; how much more so, then, in those beautiful colours that are met with on such numbers of the insect world. But in spite of this drawback, it was a highly useful work, and I much regret its discontinuance.

The neighbourhood of London seems to offer a fair number of species of this genus, as will be seen by enumerating a few others found elsewhere, as *C. glabratus*, in the mountains of Scotland. *C. auratus*, found in France,—a doubtful native. *C. nitens*, occasionally in various parts of the country. *C. clathratus* may also be considered a Scottish insect, though occasionally found in other places. The other species are rare, or are only occasionally to be met with, even in the localities where they are found.

Tennyson Terrace, White Post Lane, Hackney Wick.

CHARACTERISTICS OF COMMON BIRDS.

BY O. S. ROUND, ESQ.

It not unfrequently happens, that things which are constantly within our sphere of observation, are, to a great extent, overlooked; not, perhaps, so much from being unworthy of attention, as that their constant occurrence makes them "cheap," and we all know how much familiarity breeds contempt; but I believe that there is a great error in this, and that it is the cause why many things very worthy our consideration escape record. I was led into this speculation by watching a flock of Sparrows sitting on the walls of our farm-yard in the warm sun, for it is Spring weather this, *in tempore* Mid-winter. Sparrows are common birds enough, and not very handsome, but I always looked upon them as clever birds, a good test of which is that boys find it difficult very often to obtain a shot at them, and therefore they must be very sharp indeed; but this applies almost entirely to cold, bleak, windy weather, for in mild days, and Summer or Spring time, they are tame

enough. Sparrows are very fond of a farm-yard, and generally congregate in its precincts, and where there happen to be low shrubs in the immediate vicinity, or small buildings of the pig-sty class near, will invariably pop over the lowest part, and immediately shroud themselves in the said shrubs; seldom perching on a topmost branch, and even if they do, ready at any moment to drop down amongst the foliage. There is not that repose in them that characterises the Finch or Bunting tribes; they always remind me of the Jay-bird on the top of a post which turns on a pivot. I have remarked in their nesting season, that a Hen-sparrow will supply herself more than once with a new mate, if she be widowed, which when a boy I have often caused her to be, once for experiment's sake; and yet I have observed that, if anything, in the Winter flocks the hens appear to preponderate; and the fact of the getting a new husband is the more singular because, as a general proposition, cock-birds are supposed to be liable to more contingencies than hens, both from their own contests and being always about, while the hen is often sitting, and moreover is not so liable to be a mark as her prettier consort; but this, like the hen-Chaffinch flocks, remains difficult of explanation. So much for the Sparrow.

Another bird, more familiar still, because, for some reason, almost sacred or "tabooed," as the South Sea Islanders call it, is well worthy of some remark; I mean the Robin. It has always been a matter of astonishment to me that, considering the Robin is rarely or never killed, and that it brings out often two broods, and often lays six eggs, it does not swarm everywhere, which it certainly does not, and it is so familiar and fearless that I suppose there is no bird more open to a fair estimate as to number than it is. To be sure he is very pugnacious, and probably fatal battles royal continually take place, but he conceals his death marvellously well, for never do I see a dead Robin. In Spring, the young of this bird are seen everywhere, for they are very clamorous, but, like the swarms of minute Toads which at a particular season bestrew our path, they are consumed somehow and somewhere. It is a singular circumstance, that there are certain of our most familiar songsters, which are the objects of peculiar regard, rather indiscriminately, it appears to me, now we know the old distich—

"Martins and Swallows
Are God Almighty's scholars;
Robins and Wrens
Are God Almighty's cocks and hens."

Or, as it is sometimes rendered, "friends." Here we have a strange assemblage; the former, no doubt, are extremely harmless and beautiful little birds, always coursing about in the blue heavens, and doing us yeoman's service, in disposing of that vast insect armament, that, like the Locusts of old, would else be indeed a plague upon the land; but when we come to the Robin, here is a bold bird, anything but soft in his demeanour, or purely

insectivorous in his habits, and who plays no insignificant part in the currant or raspberry bushes, and yet he is spared, whilst other birds, which are not a whit more destructive, are sacrificed without mercy. I do not mean to advocate the destruction of this or any other bird, and more especially this, for I like his familiarity, his pretty appearance, and his sweet song, and probably he owes his safety a good deal to all these, but still there lurks the same inconsistency in the exception thus made of him. The little Wren may well be spared, but the angler must have her wings for flies, and therefore, take them all in all, of common birds, the Robin is the most honoured and spared.

Another remark I remember making, one Winter time, when I was recovering from an illness, and had leisure enough to look out of the window, more than anything else, was this, that a particular bare deciduous tree will be the especial resort of all sorts of birds. Opposite the window in question was a pretty large Laburnum, and I suppose never was there a better rendezvous for the feathered tribes than this tree. They did not appear to collect ought from its bare twigs or soft buds, but would perch on it only, and seemingly, though of mixed kinds, in very good harmony. I remember, in particular, the Titmice, (*Pari*), of all kinds, might be seen there, sometimes three or four sorts at once, more especially the Cole or Blue Tits, and then would come a Marsh Tit, or a great Parus, although I do call to mind that this "great man" was somewhat revered by the rest. Then a Bullfinch would pop up; a Blackbird, a Sparrow, a Chaffinch; and I think I almost date my love of Natural History, or rather of Ornithology, from that time. I only lighted, the other day, on some wretched attempts I then made to delineate my feathered friends; and, considering that a shilling paint-box of those times was my only resource, they might have been worse. One of the most interesting sights, perhaps, to a lover of natural study, is to see a bird "building." But this must always be under difficulty, for they are cautious in this proceeding, and always more or less conceal their little homes. Swallows and Martins are perhaps the most notorious, whereas our neatest architects work (to us) a good deal in the dark. I have watched all kinds, and should say that the bill was the chief agent, not only in bringing, but in adapting the materials brought, and then the breast in moulding the interior to the circular cup, the form required. This is especially the case with the Thrush, who makes her own neat, shell-like nest often as if it had been formed elsewhere, and deposited on the bare branch. All these things are wonders, and beautiful reflections they call forth! Look how the little weaker birds go about almost always in numbers, whilst the bold, strong accipiters, who prey upon them, soar aloft, in single confidence of strength. Listen, how the Night-birds clamour to give notice of their whereabouts, and how kind Nature has given to those which do not possess feathers for flight till an advanced period of their existence, the power of gliding on beneath

the waters, and has clad them in a garb which exactly resembles the brown and yellow changing hues of the aquatic herbage amidst which they make their home; wonders all around us; and the more numerous and the more to be admired do they appear the more we think on them, the more we know of them. But I am launching into an endless sea, so for the present I shall say no more.

Lincoln's Inn Fields, Jan. 1855,

THE PROPAGATION OF HARDY TREES AND SHRUBS.

(Continued from page 17, vol. iv.)

ORDER XXI. *AQUIFOLIACÆ*.

THE genera of this Order contain three hardy species, consisting of low trees and shrubs, chiefly evergreens, having alternate or opposite leaves, frequently coriaceous, glabrous, and sometimes feather-nerved. Natives of Europe and North America.

Myginda. Sexes hermaphrodite, calyx five-cleft, corolla deeply four-cleft, Stamens four, inserted in the base of the corolla. Fruit one-celled, and one-seeded. Shrubs with branchlets square, leaves opposite, subcoriaceous.

Ilex. Sexes hermaphrodite, very rarely, by defect, diæcious, or polygamous. Stamens five. Fruit including four or five nuts. Evergreen shrubs, with, mostly, coriaceous leaves.

Prinos. Sexes mostly, by defect, diæcious or polygamous. Stamens six. Fruit including six nuts. Shrubs with leaves deciduous or persistent.

GENUS I.

Myginda. The Myginda. Tetrandia monogynia. The only hardy species of this genus is *M. mystifolia*, a low evergreen shrub, from the west coast of North America. The flowers are small and white, appearing from May to August. Propagated by cuttings and layers.

GENUS II.

Ilex. The Holly. Tetrandia Tetragynia. We have already described this genus, see THE NATURALIST, vol. iii. Propagation by seeds, cuttings, breeding, and grafting.

GENUS III.

Prinos. Winter Berry. Hexandria monogynia, or Polygamia Diæcia. Flowers six-cleft, hexandrous, usually diæcious, or polygamous from abortion. Fruit with six nuts. Leaves simple, axillary, deciduous or evergreen, oval or lanceolate, entire or serrated, dying off of a greenish yellow. Low shrubs, natives of North America. In habit of growth all of this genus are more or less fastigate, and send up numerous suckers. However, when

these suckers are removed, they make handsome miniature trees. Propagation by suckers, cuttings, and seeds, in common soil and sand under a glass. Of this genus we have six deciduous species, though there exists a doubt among botanists if they are really distinct species. Three are evergreen.

ORDER XXII.

The hardy genera of this order are six, consisting of small ornamental trees or shrubs, often spiny, and generally deciduous. Chiefly natives of Europe or North America, of easy culture, and propagated by seeds, cuttings, and layers. They are distinguished as follows.

Zizyphus. Petals five, styles three. Fruit an ovid mucilaginous drupe. Nuts two-celled, seed-compressed. Deciduous low trees or shrubs.

Paliurus. Petals five, styles three. Fruit dry, girded with a broad membranaceous wing, three-celled, seed ovate. A spiny shrub.

Berchemia. Petals five, styles one, stigma two. Fruit an oblong dry drupe. A twining deciduous shrub.

Rhamnus. Petals, in some, absent; calyx five cleft, styles four-cleft. Fruit nearly dry, or berried, not eatable, one-seeded, oblong. Small, deciduous, or evergreen shrubs or trees.

Colletia. Corolla none, calyx five-cleft, pitcher-shaped; stamens five, style ending in three teeth. Fruit, three-celled capsule; spiny shrubs, with small leaves.

Ceanothus. Corolla, five petals, each with a long claw, and hooded; style three, united as far as the middle. Fruit a dry berry, three-celled, seed ovate, shrubs deciduous, or evergreen, leaves mostly ovate; highly ornamental.

GENUS I.

Zizyphus. The jujube. Pentandria Di-Trigynia. The common cultivated jujube (*Zizyphus vulgaris*) is the only hardy species of this genus in our gardens, as far as we are aware of. It is a native of Syria, and other parts of Asia, and in Greece. It is cultivated on account of the beauty of its foliage, in this country; and in Languedoc, on account of its fruit. The taste of the fruit is somewhat acid; the flesh is firm and succulent. When dried, it makes a very nice preserve. The syrup is used for abating fevers, and purifying the blood, and in coughs and catarrhs; lozenges, for the latter purpose, are also made from it. The stem is thick, cylindrical, somewhat twisted; bark, brown, rather chopped; branches, numerous, pliant, armed with prickles; leaves, alternate, oval-oblong, somewhat hard; flowers, pale yellow; fruit, oval-oblong, resembling that of the olive, red when ripe. Easily propagated, either by seeds, cuttings, or by suckers, which it produces in abundance.

GENUS II.

Paliurus. Christ's Thorn. Pentandria Trigynia. Of this genus we have only one hardy species, viz., (*P. aculeatus*,) or Christ's Thorn, (*P. A. virgatus*, of Don,) a twiggy Christ's Thorn, we consider only a variation of (*P. aculeatus*, of Lam. Belon asserts that the crown of thorns which was put on the head of Christ before his crucifixion was composed of the branches of this plant. Josephus says, that, "this thorn having sharper prickles than any other, in order that Christ might be the more tormented, they made choice of it for a crown for him." Hasselquist says, that the *Zizyphas spina Christa*, or Christ's Thorn Jujube, was the tree from which the crown of thorns was made which was put upon the head of our Saviour during the crucifixion. The more general opinion, however, among botanists, is, that the crown was made from the branches of *Paliurus aculeatus*. Medicinally, it is considered diuretic, and is said to be given with success in dropsical cases. A native of Europe, and in many parts is used for forming hedges; propagated by seeds, cuttings, or by the roots.

GENUS III.

Berchemia. The Berchemia. Pentandria monogynia. Twining deciduous shrubs, of which we have only one hardy species. Native of Carolina; of easy culture; propagated by seeds, or cuttings of the roots, or by layers.

GENUS IV.

Rhamnus. Buck Thorn. Pentandria monogynia. Of this genus we have upwards of twenty-five hardy species, also a considerable number of varieties, and several species not yet introduced into this country. They are deciduous or evergreen shrubs, one or two of them having the habit of low trees, and some of them are procumbent, with numerous strong thorns; hence the name of ram, or buck thorn. Deserving of cultivation, particularly *R. Alaternus*, and its varieties. Also the following: *R. hybridus*, *R. Alpinus*, *R. catharticus*, *R. Frangula*, *R. saxatilis*, *R. alnifolius*, and *R. latifolius*. Propagated by seeds, cuttings and by layers.

GENUS V.

Colletia. The Colletia. Pentandria monogynia. Of this genus we have only one hardy species, viz., *C. horrida*, a most desirable addition to our hardy low shrubs. Propagated by cuttings in sand under glass, and by Chilian seeds, which is the most general mode of propagation in the nurseries.

GENUS VI.

Ceanothus. Ceanothus, or Red Root. Pentandria monogynia. Of this beautiful genus of shrubs we have a considerable number of species and varieties. They are highly ornamental, and should find a place in every garden. Most of the species seed freely, and all are readily propagated by cuttings, in a mixture of sand and soil.

August, 1855.

(To be continued.)

A CONTRAST.

Blooming 'mid Poverty's drear wintry waste.—COLERIDGE.

TRULY the opening season of the Naturalist's observations has been a severe, and as regards actual fruits, a scanty one. The first fortnight of 1855 was a treacherous harbinger, for so merrily did Blackbird, Thrush, and Red-breast pipe their welcome notes, that we were induced to prognosticate a continuance of mild weather; but it is good to have expectations thwarted sometimes, it teaches us to trust to our Maker more than man. In silence let us submit to our Creator's dispensations, and be assured what seems loss is real gain. These thoughts suggested themselves as I reviewed my very scanty Calender for the late month February, which I contrasted with that of the two previous years. Certainly, at a glance, it is evident how intensely severe our recent snows and frosts have been! and what a consequent retardment has been given to out-door Naturalists!

In February of 1853, I gathered the groundsel, snowdrop, red dead nettle, the white nettle, the furze, and polypoddy.

In February of 1854: the catkins, daises, dandelion, red dead nettle, furze, the Jew's-ear fungus, (*Pezziza coccinea*,) primrose, and found the arum two inches above ground; violets were abundant on the meadow-banks.

In February of 1855, only groundsel, furze, catkins, and polypoddy.

The first two calendars are those of wild flowers found in the lanes and fields of Rawburgh Hill, Norfolk; this last of Moseley Lanes, near Birmingham.—GEO. R. TWINN, March 7th, 1855.

SUMMARY OF THE WEATHER FOR APRIL AND MAY 1855.

BY MR. T. LISTER.

THE barometer has generally maintained a high elevation throughout the month, in one instance only sinking to 29 in. on the 10th, its highest point being 30·65 in., on the 23rd, the mean for the month being 30·6 in. The thermometer has experienced great extremes: its highest point being 68 deg., on the 19th; its lowest, 26 deg., on the 1st; exhibiting a variation in the extreme points of 42 deg. The mean temperature of the month was 44 deg. Rain has fallen on nine days, but, until the 28th, in scarcely appreciable quantities, the average for the whole month being but three quarters of an inch. The wind has varied from N.W. to N.E., and occasionally S.; in general moderate, though, in some instances, high, and often very cold for the season. Vegetation is consequently in a backward state, though the Autumn-sown corn is in a more healthy condition than might have been expected. The leafing and flowering of plants, and the arrival of Summer birds, prognosticating seasons truer than the almanack, all evince the back-

wardness of Spring. For instance, the sloe blossom, often flowering by the end of March, has scarcely yet been seen; the same may be said of the cherry-bloom, often out in the first week in April, and the crab-blossom in the middle, which are not seen in this part at the close. The beautiful crimson catkins of the black poplar, often out on the 1st, were attaining their richest tints on the 30th. The delicate green leaves of the birch are just producing that fine effect of contrast to the darkness and bareness of the surrounding foliage, which is generally exhibited in the early part of April. Of Winter visitants, few birds, except occasional flights of wild geese and ducks, were visible after April commenced, having gone to their nesting haunts. Few Field-fares and Red-wings were seen after the setting in of the long storm, they, and many resident birds, such as Larks, which previously were so numerous as to be wantonly exterminated by the gross, were supposed to have retired towards the more open coasts. The rarest Winter visitants in these parts were the little Auk, or Rotch, taken alive on Nov. 11th, exhausted by its long flight during a severe storm. The Tufted-duck, the Scaup-duck, or Pochard, the common Tern, the common Gull, the Brambling, or Mountain-finch, &c. The Summer birds which have already come, have arrived in this order, so far as ascertained. The Chiffchaff, April 7th; the Wheatear, April 11th; the Swallow, April 14th; the Martin, April 16th; the Willow-wren, April 18th; the Redstart, April 18th; the Tree-pipit April 18th; the Whinchat, April 20th; the Cuckoo, April 22nd; the Sand-martin, April 23rd; the Grasshopper-warbler, April 24th; the Blackcap-warbler, April 26th; the Whitethroat, April 28th; the Wood-wren, April 30th. These arrivals average about ten days later than usual, with the exception of the Swallow and the Cuckoo, of which a few stragglers were allured over by the fine weather in the middle of the month. The Swallows have been noticed for years to come to Round-green on the 16th or 17th, where happily they rear their progeny in safety, both nests and eggs being protected from that violation which threatens, with other means of destruction, to extirpate our rarer birds, whether doomed to the cage or museum, or to be shot down in mere sport.

May, 1855. The barometer has ranged high this month, the greatest elevation being 30.20 inches on the 1st and 2nd; the lowest 29.5 on the 10th and 11th: the mean for the whole month was 29.72 inches. The thermometer exhibited wider extremes, the same wintry reminiscences experienced in March and April, having chequered this usually blooming and joyous month of May; though we have enjoyed some very bright and warm days, there have been passing storms of sleet, hail, and snow, as late as the 29th. The highest of the thermometer was 81° on the 26th; the lowest 27° on the 4th and 5th. The mean for the month was 46° 45'. The quantity of rain fallen during the month was very limited, until the last day, when it exceeded half an inch. The registered quantity for the month exceeds 1½ inches, falling on twelve

days. The wind has blown very often from N.W. to N.E., occasionally shifting to W. by S. and S.W., veering back to N.W. and N. towards the close of the month, with considerable force, though its general character has been moderate. Vegetation is still backward; the fragrant May blossom, pre-eminently characterised by its name as an ornament of the early part of the month, is scarcely visible now, when June "dances with her blue-bell'd anklets on." The late rains have freshened the foliage, the grass (as yet scanty), and the corn, which now promises well. Of the summer birds first noted this month, the Sedge-warbler and the Nightingale were heard on the 10th; the Garden-warbler and Landrail (or Grass-quake) on the 12th; the Grey Fly-catcher on the 28th. Most of them later than usual; the Sedge-warbler coming sometimes on the 22nd of April, and the Nightingale on the 25th. The last bird mentioned has abounded on all sides this year, and would do yearly, if undisturbed by bird-catchers and unruly persons, owing to whom the sober, thinking portion of the public are robbed of the charm of its matchless song.

Barnsley, June, 1855.

Review.

Introductory Text-Book to Geology. By David Page, F. G. S. Edinburgh and London: William Blackwood and Sons. 1854.

THE present age is pre-eminently one of cheap books. Shilling editions of Standard Novelists, Poets, Historians, and Philosophical Essayists, are almost as numerous as readers were two centuries ago. Nor is science left behind in this march of cheap intellect. Every other day we come upon books on the Natural Sciences, so cheap, that we wonder how the merely nominal charge for the volumes can pay the expense of woodcuts, paper, printing, and binding. Among these cheap works we do not know of any production better calculated to repay the purchaser, or aid the great social reform—which ought to be the aim of every writer of a volume—than that at present under consideration. It contains 136 pages of well digested, and really understandable matter, written evidently by a master hand, and *got up* in a style which is alike creditable to the publisher, the artist, and the printer; and all for the sum of one-and-sixpence. The work is divided into fifteen chapters, and so arranged, that the youngest reader may wade his way through it, not only with profit, but with increasing interest.

Chapter I. lucidly explains the nature and bearings of the science of Geology.

Chapter II. explains the general operations on the crust of the earth.

Chapters III. and IV. are devoted to the structure of the materials composing the earth's crust, and to a classification of the formations into systems, groups, and series.

Chapters V., VI., and VII. describe the older rocks, from the igneous to the silurian, ending with the Ludlow series.

Chapters VIII., IX., and X. describe the rocks between the old red sandstone and the saliferous marls.

Chapters XI., XII., and XIII. proceed upwards, from the oolite series to the pliestocene groups.

Chapter XIV. is devoted to the post-tertiary system, comprising the alluvial deposits, as great mosses, coral beds, and other recent accumulations.

Chapter XV. is a general review of the stratified rocks, and the deductions derived from such a review.

Each chapter is embellished with geological sections, or well executed figures of the fossils characteristic of the different strata.

An admirable feature in the work is, a *recapitulation* at the end of each chapter, which, while it refreshes the memory, presents the facts in other and more terse language, thus tending to impress them upon the memory. To give an idea of the pleasing style of the author, we quote a portion of the concluding paragraph of the first chapter. Talking of the Science of Geology, he says,—

“The objects of research are scattered everywhere around us. Not a quarry by the way-side,—not a railway-cutting through which we are carried,—not a mountain-glen up which we climb,—nor a sea-cliff under which we wander, but furnishes, when duly observed, important lessons in Geology. A hammer to detach specimens, and a bag to carry them in—an observing eye and a pair of willing limbs, are nearly all the young student requires for the field; and by inspection and comparison in some museum and the diligent use of his text-book, he will very soon be able to proceed in the study as a practical observer. Let him note every strange and new appearance, handle and preserve every new specimen with which he is not familiar—throwing nothing aside until he becomes acquainted with its nature; and thus, besides obtaining additional knowledge and facilitating his progress, he will shortly acquire the invaluable power of prompt and accurate discrimination.”

Retrospect.

IN THE NATURALIST for January 1855, there is an account given, by Mr. G. R. Twinn, of his having met with the nest and egg of the Dipper, in the county of Norfolk. As no one else has as yet commented on this statement, made, it appears, in reply to the inquiries of other naturalists on the subject, and as a corroboration of a previous mention of the supposed fact, I must express the most unqualified disbelief of any such occurrence. That the nest was indeed that of an “Ouzel,” I have not the slightest doubt; but, that it was not that of a “Water Ouzel,” I feel perfectly certain. No doubt the Water Ouzel is “more local than rare,” but this in no way whatever

strengthens the supposition of its nest having been found in a most improbable locality. That "beautiful attendant foliage" is at all "inviting and adapted to the specific habits of the Water Ouzel," is altogether a mistaken fancy; no one who has seen the bird "at home," among the open stones of the brawling stream, will entertain the notion for a moment. That the nest was "somewhat" (read "very") "similar to a Blackbird's" may be taken for granted, and one side being a little higher than the other, however well it might have suited the exact situation, is by no means in accordance with the, as far as I know, invariable structure of that of the Dipper. The bird, indeed, has been found in the "Eastern counties," in Lincolnshire, and in Norfolk, but I cannot believe that the instance adduced was a veritable case of its building a nest there. What was the colour of the egg? Was it a green or a white one? This will decide the question.—F. O. MORRIS, March 5th, 1855.

The Hawk figured in September number.—If my Hawk is only a variety of the Sparrow-Hawk, how comes it to have a *dentate process* on the upper mandible, which it has *most distinctly marked*?—R. HOBSON, M. D. Leeds Oct. 17, 1855.



Miscellaneous Notices.

Occurrence of the Bee Eater (Merops Apiaster) in the Isle of Wight. Lieutenant E. J. B. Edwards, of the Royal Engineers, shot in June last, at Weston, Freshwater, a splendid specimen of the Bee Eater. This was communicated to me by Mr. Murrow, of the Royal Albion Hotel, Freshwater Gate, at whose house Lieutenant E. was staying at the time, and who saw it in the flesh. I also saw the person who skinned it, viz., Mr. Rogers, naturalist, Freshwater, Isle of Wight.

Disappearance of "Choughs" (Fregilus Graculus) from the Isle of Wight. These birds were formerly (that is four or five years ago) very plentiful in the island, building about the high cliffs, from the Needles to Freshwater Gate, but are now, it is supposed, reduced to a pair or two. The last known to be killed, was caught in the rabbit warren, at Alum Bay, about two years since. They used to be as common as other crows. A man named Long, told me he once shot five at a shot. A family named Lea, were nearly poisoned by eating them, some twenty years since. This was told me by Lea himself, (a coast-guard man,) who partook of them.—JOHN DUTTON, St. Peter's Place, Hammersmith, Sept 15th, 1855.

Additions to the Ornithology of Sussex. I saw, a few days ago, at Mr. Swaysland's, a male and female Orange-legged Hobby, (*Falco rufipes*), and a Blue-throated Warbler, (*Phanicura Suecica*), which were, he tells me, captured this season, near Brighton. These birds are not mentioned in Mr. Knox's "Systematic Catalogue."—J. CAVAFY, Brighton, Sept. 20th, 1855.

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Communications have been received up to November 17th, from H. T. STANTON, Esq.—E. P. WRIGHT, Esq.—H. F. WOOD, Esq.—O. S. ROUND, Esq.—S. STONE, Esq.—MR. M. WESTCOTT.—REV. F. O. MORRIS,—J. H. DAVIES, Esq.—G. WALKER ARNOTT, Esq., M.D.

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Will E. E. H. favour us with his name and address in confidence.

RECEIVED: The Natural History of the Tineina. Vol. i. containing Nepticula, Part i.; Cemiostoma, Part i. By H. T. Stanton; assisted by Professor Zeller, and J. W. Douglas. London: Van Voorst. 1855. 8vo. p.p. 338. Eight Coloured Plates.

The Natural History Review. No. 7, July; No. 8, October, 1855. London: Samuel Highley. 8vo.

ERRATA: Page 102, line 2, for annally, read annually.

"	103,	"	12 from bottom, for hilarous, read hilarious.
"	205,	"	6 from bottom, for less the sixth, read less than the sixth.
"	242,	"	17 from bottom, for proffered, read proffered.
"	257,	"	14 from bottom, for mystifolia, read myrtifolia.
"	ib.,	"	9 from bottom, for breeding, read budding.
"	259,	"	4 for a Twiggy, read or a Twiggy.

Infusorial Earths.—Dr. Morris would feel greatly obliged to any one who would favour him with specimens of any Infusorial Earths, or Diatomaceous deposits, mounted or unmounted; and would endeavour to make the best return in his power.

Bishopwearmouth, August 1855.

The Editor begs to announce to his Correspondents, that he has arranged with his Printer, so that the Author of any Paper can have copies of his Article sent him by post at the following rates:—

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OCCURRENCE OF THE ESQUIMAUX CURLEW (*NUMENIUS BOREALIS*) IN SCOTLAND.

BY J. LONGMUIR, ESQ., JUN.

THIS bird is the third, smallest, and rarest of our British Curlews. Its claim to a place in the British fauna, if not the European also, rests on a single specimen, killed on the 6th of September, 1855, in the parish of Durris, Kincardineshire, a few miles from Aberdeen, by W. R. Cusack Smith, Esq., at the time occupying Durris House. The bird was sent to be stuffed by Mr. Mitchell, Aberdeen; and was examined a few days after, by the writer, who ascertained it to be the Esquimaux Curlew (*Numenius borealis*). Unluckily, it was not measured when in the flesh, and the sex was not observed; but it appears to be a female, in almost complete winter livery.

Some queries sent to its fortunate possessor were most courteously answered in a letter, from which the following passages are extracted: "I shot the bird on the 6th of this month (September). I was standing on a cairn of stones, which is at the top of a hill on the 'muir,' belonging to Durris, called Cair-monearn;* and was looking at the view, when my gamekeeper said to me that there was a Golden Plover close to me, on the south-east side of the cairn. I looked and saw a bird walking slowly about, just as a Plover would do; and as soon as I could get my gun, I went up to the bird and shot it. Its flight was very similar to that of a Sea-gull. The bird was quite alone. I did not hear it utter any note, and I think if it had done so, I must have heard it. It seemed very much disinclined to rise from the ground; and allowed me to get within twenty yards of it."

To this very circumstantial account, a few remarks, gleaned from the "American Ornithological Biography" of Audubon, and the "Fauna Boreali-Americana" of Swainson and Richardson, may be added. It spends the summer months in the barren tracts within the arctic circle. A few days from the close of July, 1833, Audubon found companies of them making their appearance in Labrador, near the harbour of Bras d'Or. They came from the north, arriving in dense flocks, much after the manner of the Passenger Pigeon (*Ectopistes migratoria*). In early autumn, they remain a few days, while on their way southward, in Massachusetts, where, "during their short stay, they are met with on the high sandy hills near the sea-shore." Their food consists of Grubs, Grasshoppers, and fresh-water insects; but principally of a kind of crow-berry, known among the fishermen of Labrador as the curlew-berry. "It is a small black fruit on a creeping shrub, so abundant, that patches of several acres cover the rocks here and there. When the birds were in search of food, they flew in close masses, sometimes high, at other times low, but always with remarkable speed, and performing beautiful evolutions in the air. The appearance of man did not seem to intimidate

* One of the Grampian range, some twelve hundred feet above sea-level



them; for they would alight so near us, or pass over our heads at so short a distance, that we easily shot them. While on the wing, they emitted an oft-repeated, soft, whistling note; but the moment they alighted they became silent. They ran swiftly along, all in the same direction, picking up the berries in their way; and when pursued, would immediately squat in the manner of a Snipe or Partridge, sometimes even laying their neck and head quite flat on the ground, until you came within a short distance, when, at a single note from any one of the flock, they would all immediately scream and fly off. . . . They rose from the ground by a single quick spring in the manner of a Snipe, when they would cut backward, forward, and all round, in a very curious manner, and would now and then pause in the air like a Hawk, remaining stationary for a few moments, with their head meeting the wind, when immediately after they would all suddenly alight." (*Aud.*) While on their passage to the south, they fly high, and with their usual speed; but in no regular form, such as a flock of Wild-geese would assume, sometimes presenting an extended front, and sometimes closing up into a dense mass.

On its partly animal, partly vegetable diet, this Curlew appears to thrive admirably, as it is usually extremely fat and juicy, and affords excellent eating. From this circumstance it has, according to Audubon, probably acquired the name of "Dough-bird," under which designation it is commonly known to the inhabitants of Massachusetts, although it holds the name in common with several other birds. Mr. Smith's specimen, contrary to what might have been expected, was so plump, that, to use the homely expression of the bird-stuffer, "the very oil was running out of it;" for these far-come strangers are more usually in the sorry, half-starved plight of the Spur-winged Goose, (*Plectropterus Gambensis*), obtained in Banffshire, by that very enthusiastic naturalist, Mr. Edward; or even are so exhausted by their fatigue as to be found dead, like the Barbary Partridge, near Melton-Mowbray; or the Purple Water-hen, near Brandon.

The Copper Indians have a belief that this bird, with several others, betrays the approach of strangers to the Esquimaux; which may be explained, in Dr. Richardson's opinion, by the circumstance, that this persecuted people will be on the alert, whenever they perceive a bird flying anxiously backwards and forwards over a particular spot, as our Lapwing is in the habit of doing.

The Esquimaux Curlew breeds in flat, low, marshy ground, laying three or four pear-shaped eggs of a siskin green colour, with a few irregular spots of bright umber-brown. Audubon says nothing of their nidification; indeed, he laments that he is unable to give a complete history of the bird from personal observation; but this want is supplied by Dr. Richardson, who obtained their eggs when on the expedition to the northern regions, the zoology of which is so well described in the "*Fauna Boreali-Americana*."

Curiously enough, the several species of European Curlews, although they have an almost proverbially wide range, are unknown in North America,

where they are replaced by others, which, though closely allied to those of the Old World, are specifically distinct from them. This remark indeed applies to many other species; such as, for example, the Great Northern Shrike of America, (*Lanius borealis*), which is distinct from our British one, the Gray Shrike (*L. excubitor*.) Our common species are the Curlews, by pre-eminence, (*Numenius arquatus*), and the Whimbrel (*N. phaeopus*); which measure about twenty-two and eighteen inches respectively. Two of the principal New World species, are the Hudson's Bay Curlew, (*N. Hudsonicus*), which greatly resembles our Whimbrel,—one of the most obvious distinctions being, its want of a white patch on the rump; and the present species, which is considerably smaller. It may be mentioned, that Pennant, in his "Arctic Zoology," includes the two most common species of Europe, in his Kamschatkan birds; and that the venerable Latham, when acting as annotator to one of the editions of the same author's "British Zoology," in speaking of the Curlew, observes, "A slight variety of it also inhabits America." Right or wrong, these views do not appear to coincide with the commonly-received opinion of the present day; although now, that Dr. Carpenter is about to enter the field, and dispute the claims of hundreds of species to be species at all, it would be difficult to determine how matters may be regarded by the race of ornithologists now in the nursery.

Between our Curlews, and the one now for the first time added to the list, there is a marked "family likeness," notwithstanding the difference in size. The bill is brownish-black, the basal portion of the lower mandible flesh-coloured, which gradually passes into the darker hue; irides dark brown; sides of head yellowish-brown, with brown streaks; upper part of the head brownish-black, edged with reddish-brown; neck considerably lighter, edged with dull white; upper parts blackish-brown, with light edges; primary quills dusky brown, the first four shafts white, the others becoming darker till they pass at length into pale brown; secondaries lighter; rump dark brown, with light edges; upper tail coverts barred with dark and light shades; the tail composed of twelve feathers, ash gray, with dark brown bars, edged and tipped with brownish white. Throat, and a streak over the eye, nearly white; foreneck light brown, with small longitudinal liver-brown markings; under wing coverts chesnut, with irregular brown markings; breast and abdomen yellowish-gray, tinged with brown; the shafts of each feather brown, gradually disappearing downwards; the former with, the latter without, dark markings; feet dark green. The dimensions agree most exactly with those in the works of Audubon and Swainson. They are—length, approximate, fully fourteen inches; extent of wings twenty-eight inches; bill two inches three lines; tarsus one inch ten lines; middle toe almost an inch, its claw about three lines.

This Curlew is a most interesting addition to the score or so of birds with which our Fauna has been enriched from America, and is the fourth or fifth

American species belonging to the family of the Sandpipers, (*Scolopacidae* Sw.) which has made its way to this country; the others mentioned in Yarrell being the Buff-breasted Sandpiper (*Tringa rufescens*;) the Pectoral Sandpiper, (*T. pectoralis*;) of which a second individual was obtained in Northumberland, this summer; Schinz's Sandpiper, (*T. Schinzii*;) to which Bartram's Tatler (*Totanus Bartramius*) has very recently been added.

The writer cannot conclude this, without acknowledging the opportunities which, at some inconvenience, have been given by Mr. Smith for the examination of his specimen.

Aberdeen, Oct. 1855.

NOTES ON THE GRAY SHRIKE, (*LANIUS EXCUBITOR*;) THE
DIPPER, (*CINCLUS AQUATICUS*;) AND THE CHOUGH, (*FREGILUS GRACULUS*.)

BY HENRY SMURTHWAITE, ESQ.

The Gray Shrike, (*Lanius Excubitor*.) Most recent writers on Ornithology appear to agree in considering the Great Gray Shrike (*Lanius Excubitor*) as merely a winter visitor to our island, and *all*, as far as I can ascertain, deny that it ever breeds with us. Before entering on the latter subject, I may observe, that although the bird is generally considered rare, even in winter, it cannot justly be called so, as I do not recollect a single year elapsing for some time back, in which one or two specimens were not obtained. Several instances of this kind are chronicled in *THE NATURALIST*. Rennie and Mr. Knapp (who call it "the Butcher Bird," by which name *Lanius Collurio* also is known in some of the northern counties) state that it breeds in the vicinity of their respective residences. Mr. Knapp says, "It breeds annually in my neighbourhood;" and Rennie mentions having found several "within five miles of Lee, in Kent." Mr. Yarrell notices a specimen obtained in summer, in Ash Lane, near Lee, a circumstance confirmatory of Rennie's statement. Now I think that neither of the persons I have mentioned are likely to have been mistaken on this point; the accuracy of Mr. Knapp's observations is well known. Yarrell supposes that, in some instances, the eggs of the Red-backed Shrike may have been mistaken for those of the larger species, but, although they do, no doubt, vary very much both in size and colour, they are rarely or never so like those of *Lanius Excubitor* as to render their identity at all doubtful. I should feel greatly obliged to any of your correspondents who would favour me with their observations on this subject, either by letter, or through the medium of *THE NATURALIST*.

The Dipper, (*Cinclus aquaticus*.) I have been enabled lately to see, almost daily, a good deal of the habits of the Dipper, *Cinclus aquaticus*, during the breeding season. Since 1852, a pair of Dippers have (as I have previously

mentioned in THE NATURALIST) annually built their nest under the arch of a railway bridge which crosses a small brook, undeterred from their enterprise by the almost deafening noise occasioned by trains passing overhead, and regardless of the persecution to which I am sorry to say they have been subjected. There are, I suppose, in every town, persons who collect birds and eggs merely that they may *have a collection*, without taking the least interest in the habits, &c., of the birds themselves; my own neighbourhood is not free from persons of this class, and the poor Dippers know it to their cost. In 1852, the birds were three times plundered of their nest, containing, on each occasion, five eggs; this was repeated in the two following years; the same pair of Dippers, although unsuccessful in their attempts to bring off a single brood, returning every spring to the bridge; this year, 1855, wishing to procure some eggs for a friend of mine, I visited the brook towards the end of March, and found the nest containing three eggs; these I removed, as the birds seldom if ever desert the nest, even if their full number be laid; a few days afterwards I again looked into the nest, and it then had four eggs. These, as I afterwards heard, were taken, and the bird laid five more in the same nest, which was again removed, together with its contents. Let it suffice to say, that this persecuted creature has, up to this period, May 15th, constructed five nests, from which 23 eggs have been obtained, and she is now sitting on two others, which will, I am afraid, share the fate of the others. When paying my daily visits to the nests, I found the birds to be extremely tame; by approaching cautiously, so as not to startle them, I have frequently seen the male bird seated on a stone which projected from the water immediately below the nest; from this he frequently dived, and after remaining under water for a few moments, would again emerge, and shake himself, just as a dog would have done under similar circumstances, covering the stone with drops of water. Although I watched attentively, I never saw any of the birds actually walking under water, but I do not at all deny that this may be occasionally done. The female often allowed me to approach within a foot of the nest before she left it; when she did so, it was with a cry similar to that which a Blackbird would have uttered in a similar position. The eggs, when fresh, have a beautiful pink hue, which I have not observed in those of any other species; this, however, fades away immediately on their being blown, and the shell loses in a few days a great deal of its former transparency. As I afterwards found that the eggs I had taken were not required, I shall be very happy to send specimens to any of your readers who may be in want of them, and will write to me on the subject.

The Chough, (*Fregilus graculus*.) One of the most interesting of our British Birds, in my opinion, is the Chough, (*Fregilus graculus*.) of modern authors. Unlike the rest of its family, it confines itself almost exclusively to the sea coast; I say unlike the rest, for although the Raven, Hooded Crow, and

Jackdaw, are no doubt found on some of our rocky coasts in considerable numbers, yet they are far more frequently seen in inland situations, where the abundance of timber offers them insuperable inducements for residing. We have, I believe, no authenticated instance of the Chough constructing its nest in a tree, whilst all the remainder of the Corvidæ (if the accounts which we possess of the Nutcracker's nidification be correct) build more or less in such a situation. Its handsome colours, active habits, and peculiar cry, render it an object which cannot easily be mistaken or overlooked, and when we consider that our island contains, at the present day, more ornithologists than any other country on the face of the earth, and these ever on the lookout to communicate the occurrence of any rare specimen to their brother naturalists, we must consider, from the scarcity of notices of this kind concerning the Chough, that it is one of the most uncommon of our indigenous birds. This was my impression for some time, and was only lately removed by the contents of a letter which I received from S. Clogg, Esq., of East Looe, Cornwall. This gentleman, who from the vicinity of the seacoast to his residence is qualified, in a peculiar degree, to speak with correctness on this subject, says; "It breeds in the cliffs about Port Isaac, Podstone, &c., on the north coast of Cornwall, more commonly than on the south; although a few pairs may be yearly seen about the Lizard, where, like the Jackdaw, they breed in holes in the cliffs. In one of the numbers of "Dickens' Household Words" there lately appeared a short paper by a person who once resided in Cornwall, wherein he stated that the Chough was common in the cliffs near Mucrow, and that in the season the young birds might be bought for three or four pence each. Now I believe this to be altogether a mistake, as I know the Jackdaw is commonly called "Chough" throughout Cornwall; we have a very high cliff close by us, where the Daws breed in great numbers, which is called 'Chough Rock,' and should any one come here in the breeding season, and offer a reward for any number of Chough's eggs, he would soon have an abundant supply of Daw's eggs brought to him, under the supposition that they were those of the Chough; and it would be no easy matter to convince the bearers to the contrary, they, in their ignorance, fully believing them to be veritable Chough's eggs." Mr. Clogg then goes on to say, that his friend, Mr. Clement Jackson, during a recent tour of the Cornish coast, observed numerous specimens of *F. graculus*. If any correspondent of THE NATURALIST, who can speak from experience of the habits or nidification of the Chough, will communicate to you his observations, he will add something to the rather unsatisfactory knowledge which we possess of a most interesting bird, and very greatly oblige *one* at least of your readers.

Richmond, Yorkshire, May 15th, 1855.

The Chough is common enough among the cliffs on the eastern part of South Devon, and we should expect them to be so also in Cornwall.—B.R.M.

NOTES FROM A BIRD-NESTING EXPEDITION TO THE SOUTH OF HOLLAND.

BY WILLIAM BRIDGER, ESQ.

THE excellent descriptions of the habits and nesting places of many of the rarer British Birds, by the late Mr. Hoy, as given in Mr. Hewitson's "Illustrations of the Eggs of British Birds," induced me to take a trip to the south of Holland.

Accordingly, the 7th May last, I left this country, and crossing over to Antwerp, found myself, on the 9th, at Valkenswaard, a small village, situate ^h between the rivers Dommel and Fongreep, near the Belgian frontier, about seven miles from the town of Eindhoven, and about twenty-eight from the still larger town of Bois le Duc, called by the Dutch Hertogenbosch, (or "The Bosch," as they often term it, for shortness,) on the river Meuse. Here, then, at the comfortable "Valken Inn," with its painted signboard of a Hooded Falcon, I took up my quarters for the season. And with no flaunting boast has that Inn derived its name of the Falcon Inn, for its good owner, Mr. James Bots, was falconer in England for years, and has not long retired from being falconer to the hawking club at the Loo of which the king is the president, and is now, as ever, ready to be first or second in anything in the way of sport. Bots, who speaks English fluently, was our constant companion; and a better fellow never lived. Besides Bots, two or three others in the village speak English, the girls and many of the men French, and the rest Dutch, which resembles bad German. Mr. Baker, a naturalist of Cambridge, had arrived before me, and being on the same pursuit as myself, and being a good bird-skinner, materially aided me in my search.

Little Owl. *Strix passerina.* Tem. Kleine steen Uil, Dutch or provincial name. This Owl is by no means rare there; a nest with one egg in was taken before my arrival. The doctor of Leende, a village about four miles from Valkenswaard, whose name I do not recollect, kindly allowed a nest of three eggs to be taken from a hole in a walnut tree in his garden; he told me he was only too glad to get rid of them, for the noise they made at night was abominable. The eggs were taken the 19th June, and had been sat upon some time. Two broods were, to my knowledge, hatched out in the village; one from a walnut tree in a garden, and the other from a hole in the church; I heard of the latter on my return from the Loo, where I had been to see the hawking. I was desirous of obtaining one or two young ones, but as the hole was at a considerable elevation, and extended a long way in, the only way to get them was, as Bots said, to "lime them." We tried with two live young birds, one evening, but either we arrived too late, or the young birds were not a delicacy, for we did not succeed. However, on the 19th June, a live mouse with difficulty having been obtained, we commenced operations. Having noticed that the Owls generally perched in the early part of the

evening on an iron cross on the roof at the end of the church, we stuck a short stick with the mouse attached by a string to it in the ground opposite; at the side was stuck a twig, whose three thin branches, which were limed, spread over the mouse at a height of two or three inches. This being arranged to our satisfaction, we laid at a little distance off, smoking our pipes and watching the result. I had just bet Bots a bottle of his best that we should be again disappointed, when we observed an Owl light on the cross; presently, down he darted, in the direction of the mouse. He's caught! was the exclamation; and so it was, the Owl was caught and the bottle lost. Poor little fellow! he looked so patient, and seemed to implore so with his large upraised eyes, that we almost felt sorry he was caught. Another one was caught in the same manner, about a fortnight later, and both these are now in the Zoological Gardens. I fed them upon birds which they chiefly contributed to catch, thus: In a field in which the herbage was short, to allow of the Owl being seen, we would fix a low perch in the ground and tie the Owl to it, allowing him, however, by means of jesses and a long leash plenty of scope. In front of the perch, at a little distance from each other, are stuck two sticks in the ground, each having a slit at the top. In this slit, and in each side of each stick, we lightly fixed a small twig, with a slender branch or two projecting, which were limed. The birds, on coming to mob the Owl, would alight on these twigs, which, falling to the ground with their weight, entangled them in the lime, and thus they became caught. In this way we captured Red-backed Shrikes, Yellow Hammers, Tree Pipits, Whitethroats, &c. It is with the Little Owl that the falconers capture the Great Gray Shrike, which in its turn is used by them in capturing the Falcons. The livelier the Owl the better it is to capture small birds with, as from its hopping and flying about it is the easier seen. As soon as the evening began to close in, and sometimes of a morning, we would see the Little Owl on the move, and in the middle of the day he might often have been seen quietly seated in some dark cranny or other outside the church. In the nights in July, when everything else was still, I would lie awake with my window open, listening to their "koowit, kwitch," accompanied only by the watchman's rattle and his monotonous voice, as he went his rounds. During the time I had them caged, they never plucked their birds before they eat them, and if you approached to look at them they would stand up, stare at you, and snap their bills. The Little Owl makes no regular nest, and lays from three to five eggs; some I have are round, and some rather oval, but they are all of the same size, and are of a dull white colour. This was the only Owl I noticed as breeding round Valkenswaard, but I was informed, that, at Wahltre, distant about two miles, the Barn Owl breeds.

Guildford, Oct. 12th, 1855.

(To be continued.)

CONTRIBUTIONS TO A LIST OF THE CRYPTOGAMOUS FLORA OF BANFFSHIRE.

BY W.

FERNS.

1. Common Polypody. (*Polypodium vulgare*.) Abundant in all parts of the county. On the rocks exposed to the sea it attains the height of only one or two inches, scarcely showing its head above the moss.
2. Mountain Polypody. (*P. phegopteris*.) In the parish of Alvah, by the Rev. A. Todd. On the 11th August I gathered it near a romantic waterfall, called the Dhu Craig, in the parish of Keith; one plant measured twenty-one inches. I have also found it growing at a great height, on a hill in Strathconon, Ross.
3. Tender three-branched Polypody. (*P. dryopteris*.) Parish of Alvah, by Rev. A. Todd.
4. Alpine Polypody. (*P. alpestre*.) This fern I am inclined to think I gathered at Tarlair, near Macduff. It grew at the bottom of some high rocks, in a damp shaded situation. At first I took it for *Athyrium-filix-femina*, but on closer examination I have set it down as Alpine Polypody.
5. Heath, or Mountain Fern. (*Lastrea Oreopteris*.) This fern is most abundant in most parts of the county. In moist shaded situations it grows most luxuriantly, being upwards of three feet in many parts. I observed it in great quantities in many parts of Ross.
6. Male Fern. (*L. filix-mas*.) Common everywhere. In Gillie Burn, near Banff, it attains great perfection, and remains throughout the winter. In the above named place I met with a frond, in which one of the pinnæ was bifid.
7. Narrow prickly-toothed Fern. (*L. spinulosa*.) This grows in the hills of Boyndie, near Banff, and in other places. Being out one day collecting, I gathered more specimens than I could well examine; I laid them aside till a more convenient time. When I put the sori under the glass, I thought I saw the spores in motion. I looked steadily, and the spores were flying in all directions, and in great quantities, so that the paper below the fern was soon quiet dark. In my quiet admiration, methought I heard a crackling noise; *auribus erectis* I listened, and distinctly heard it; this was a sound that fell on the ear "like the exquisite music of a dream," telling that there was a force, a vital force at work in that plant, and speaking a tale of wisdom.
8. Broad prickly-toothed Fern. (*L. dilatata*.) Quite common, and in shaded places growing to a large size.
9. Prickly shield Fern. (*Polystichum lobatum*.) I have found this in one place only,—in the parish of Botriphnie, on the side of the old road leading from Keith to Dufftown, near the small loch from which the Isla flows; it measured nearly two feet in length.

10. Brittle Bladder Fern. (*Cystopteris fragilis*.) This occurs rather frequently, and in several varieties, in wells and on shaded rocks.

11. Mountain Bladder Fern. (*C. montana*.) This was found on Ben-rinnes, this summer, and sent to Mr. Edwards, Banff.

12. Lady Fern. (*Athyrium Filix fœmina*.) Very common, and in shaded places growing in great luxuriance. I have measured them three feet in length.

13. Black Spleen Wort. (*Asplenium Adiantum nigrum*.) It grows near the Bridge of Alvah, in small tufts, on rocks accessible only by boat.

14. Sea Spleenwort. (*A. marinum*.) This is found rather plentifully, in a cave at Tarlair, near Macduff, Banff. One of the fronds I pulled was bifid.

15. Common wall Spleenwort. (*A. Trichomanes*.) This grows in the Dhu Craig, Keith.

16. Wall Rue, (*A. Ruta-muraria*,) grows in great abundance in two vaults in the old castle of Balvenie Mortlach. One of them is entirely covered with it. It also grows, though very stuntedly, on the highest parts of the walls I could reach.

17. Common Hart's tongue. (*Scolopendrium vulgare*.) It has not yet been my luck to find this within the county. It is found in the den of Auchmedon, on the borders of it. It is also found in Morayshire.

18. Scaly Spleenwort. (*Ceterach officinarum*.) Mr. T. Edwards has found this near Banff.

19. Hard Fern, (*Blechnum boreale*,) is most abundant in all parts. It grows to good perfection in the damp ditches in the woods around Duff House. This is the fern I found growing highest on the hills in Ross. It could not have been less than 800 or 900 feet above the sea level.

20. Common Brake. (*Pteris Aquilina*.) Most plentiful, so that it is often used as litter for cattle, and in some cases, as food for horses. I have measured it seven and a half feet in length on the banks of the Deveron, Mont Coffer.

21. Parsley Fern, (*Allosorus crispus*,) is said to be found on the Burn of the Boyne.

22. Maiden-hair, (*Adiantum capillus Veneris*,) is recorded at page 51 of THE NATURALIST, Vol. III.

23. Flowering Fern, (*Osmunda regalis*,) was found some years ago, by Dr. Bidie, Cullen, at a place called Rannes, near Cullen.

24. Moonwort. (*Botrychium lunaria*.) Parish of Alvah, by Rev. A. Todd. October 17th, 1855.

DOWN THE RIVER.

BY J. S. WALKER, ESQ.

I LIVED on the east coast of Australia, in the district of Twofold Bay, a few miles from the sea. This part of the country may be described as a succession of gently undulating well-grassed hills, thinly timbered by dwarf Eucalyptus and *Bunusia* trees; the Moneroo mountains, so steep as to be quite impassable, except at two or three places, hemmed it in, their sides and summits covered with huge forest trees, whose stems were charred and blackened by successive bush fires. Several streams wound their way between groves of carnarinæ, and uniting at Bega, emptied themselves into the sea, about two hundred miles to the south of Sydney. I say emptied, but percolated would be a better term; for these rivers, which were the drainage of sixty or seventy miles of country, and which for several miles from its mouth formed a noble stream, when it reached the ocean was separated from it, during at least nine months in the year, by a narrow bar of sand; the south-eastern gales, which occasionally during the winter months lashed these shores with the fury of a hurricane, would sweep away the bar, and allow the pent up stream to disgorge itself into the Pacific; but a few weeks of calm weather again replaced the sand.

Bank

About eight or ten miles up the river we had a cattle station; and here on the banks, at the very water's edge, we built a little cottage, where, during the heats of summer, we spent a few weeks with our wives and families. Having at last procured a boat from Sydney, we determined to take a trip "down the river," and explore its beauties; for it was situated in so lonely a part of the country, that only one or two white men had ever followed its course to the sea.

Behold us, then, one calm summer's morning, prepared for a start; two days' provision, blankets, fowling pieces and ammunition, fishing lines and hooks, &c., having been safely stowed away, and having secured the services of a couple of black fellows to row the boat, we gently glide down the stream. It soon begins to widen to 150 yards, and the water gets brackish; a few miles further, it is quite salt; the hills are steep, and in some places may almost be called mountains. Now we pass some sheltered corner, where the vegetation is quite tropical; the hugest trees are covered with climbing plants, and lovely broad-leaved ferns; flocks of Paroquets, with loud screams, flit by,—their scarlet and golden plumage flashes for a moment in the sun, and they are gone. Shoals of Mullet spring from the water, and fall back with a loud flop; then the black fellows start up, seize their spears, and immediately a splash in the water proclaims a prize, and we haul into the boat a fine Sand Mullet, of three or four pounds weight. Now a flock of Wild Ducks, with their necks stretched out, as if wondering at our unusual appearance, with loud fluf-fluf; bang go both barrels, and my friends the

darkies burst out into a loud guffaw, and exclaim "Stupid you!" when it is discovered that I have missed them. These sable gentlemen, I may mention, were great favourites; and as when one made a remark the other echoed it, or when one laughed his companion joined in his merriment, therefore the ladies nicknamed them incontinently Pyke and Pluck, at which joke they laughed consumedly, and indeed roared so loud that they bade fair to startle all the game. As we progress, the river varies in width, from a quarter to half a mile, and is studded with beautiful islands, all of which are covered with flowering plants, and the larger ones with trees. But we get down the river but slowly; for first Pyke points out a long trail on the water, and tells us it is a Black Snake so I fire, and am more successful this time, for when we pull up to the spot we find the animal dead at the bottom of the clear water; then we see what the blacks call a Monkey, but which is in reality a small Sloth, seated far aloft, between the forks of a tall gum tree; Pyke, who, on his own showing, is a dead shot, levels the fatal tube, but, instead of bringing down the "Monkey," only wounds him; whereat the wretched beast moaningly essays to climb beyond our reach, and utters such plaintive cries—the sound reminding us of a child in distress—that we are almost tempted to leave him, a proposal which both Pyke and Pluck treat with great scorn, and at another discharge he comes toppling down into the water, and being examined by Pyke, is reported to be very fat, and so is stowed away in a safe corner of the boat, and is reserved as a *bonne bouche* for their supper. This little animal, which is about the size of a large cat, is rather rare; like the rest of the Sloths it lives almost entirely in the trees. I rather think it is not marsupial, at all events it has this strange peculiarity, that it carries its young one—it has but one at a birth—on its shoulders, whose little arms grasp firmly the mother's head. I have often seen them myself in this odd position. It is nocturnal in its habits, but does *not*, like the Opposum, retire to the holes in the trees during the day time, remaining silently perched upon a branch. It feeds chiefly upon the leaves of the gum tree.

To be continued.

THE DIURNAL LEPIDOPTERA FOUND IN THE NEIGHBOURHOOD OF LUTON, BEDFORDSHIRE.

BY ALFRED LUCAS, ESQ.

HAVING noticed that in some of your former numbers you have received communications relative to the various localities where lepidopterous insects have been found, but not having seen the south of Bedfordshire among them, I thought that a brief list of those insects taken in that part might not prove entirely void of interest to some of the readers of THE NATURALIST.

- Gonepteryx Rhamni*. (Brimstone B.) Common in the spring and autumn.
Colias Edusa. (Clouded Yellow.) Very scarce. Near Hitchin.
Pontia Brassicæ. (Large Garden White.) Everywhere abundant.
Pontia Rapæ. (Small White.) Everywhere abundant.
Pontia Napi. (Green-veined White.) Everywhere abundant
Pontia Cardamines. (Orange-tip.) Very common in May and June.
Nemeobius Lucina. (Duke of Burgundy Fritillary.) Very rare. Hitch Wood.
Melitæa Cinxia. (Glanville Fritillary.) Occasionally seen in gardens.
Melitæa Euphrosyne. (Pearl-bordered Fritillary.) Scarce. In woody places.
Argynnis Paphia. (Silver-washed Fritillary.) Very common in Hitch Wood.
Vanessa C. Album. (Comma.) Occasionally met with near woods.
Vanessa Polychloros. (Large Tortoise-shell.) Not scarce.
Vanessa Urticæ. (Small Tortoise-shell.) Abundant everywhere.
Vanessa Io. (Peacock.) Very common in autumn.
Vanessa Antiopa. (Camberwell Beauty.) Once seen at Hitchin.
Vanessa Atalanta. (Red Admiral.) Common.
Cynthia Cardui. (Painted Lady.) Common.
Apatura Iris. (Purple Emperor.) Occasionally seen in Hitch Wood.
Limenitis Camilla. (White Admiral.) One specimen has been taken.
Hipparchia Egeria. (Speckled Wood.) Common in woods and lanes.
Hipparchia Megæra. (Wall) Very common.
Hipparchia Galathea. (Marbled White.) Occasionally taken.
Hipparchia Tithonus. (Large Heath.) Everywhere abundant.
Hipparchia Janira. (Meadow Brown.) Extremely common.
Hipparchia Hyperanthus. (Ringlet.) Abundant.
Hipparchia Pamphilus. (Small Heath.) Common.
Thecla Quercus. (Purple Hair-streak.) Very scarce. High Down.
Thecla Rubi. (Green Hair-streak.) Occasionally taken.
Lycæna Phlæas. (Common Copper.) Not scarce.
Polyommatus Argiolus. (Azure Blue.) Scarce. High Down.
Polyommatus Alsus. (Small Blue.) Common. High Down.
Polyommatus Corydon. (Chalk-hill Blue.) Common. Warden Hill.
Polyommatus Aleris. (Common Blue.) Very common.
Polyommatus Agestis. (Brown Argus.) Scarce.
Thymele Alveolus. (Grizzled.) Common.
Thymele Tages. (Dingy Skipper.) Scarce. On hills.
Pamphila Paniscus. (Chequered Skipper.) Common.
Pamphila Linea. (Small Skipper) Common in lanes.
Pamphila Sylvanus. (Large Skipper.) Not scarce.

York, October 1855.

Review.

The Natural History of the Tineina. Vol. i. containing *Nepticula*, Part i. *Cemiostoma*, Part i. By H. T. Stainton; assisted by Professor Zeller, and J. W. Douglas. London: Van Voorst. 1855. 8vo. pp. 338. *Eight Coloured Plates.* Price 12s.

THE astonishing progress which has of late years been made in Entomology, has in no group of insects been so obvious as in that of the Micro-Lepidoptera; it is but a few years back that these little insects were, *if collected at all*, placed in the cabinet almost indiscriminately, a few well marked and obvious species excepted. It is with sincere gratification that we hail the advent of the present volume,—though it is only the first of a long series,—as promising us much minute yet distinct information upon these little atoms. No one is better qualified for the task of bringing them to light than Mr. Stainton, and with the able assistance of Professor Zeller, and Mr. Douglas, there can be no doubt of the great intrinsic value of this and the future volumes coming out under the same auspices. One singular, but very valuable feature of the work, is, that the text is given in English, French, German, and Latin, thereby giving it the chance of a world-wide dispersion, without the usual delay attending translations, which, too, are not always correct in giving the author's meaning. The insects described in the present volume are the first part of the Genus *Nepticula*, and the first part of *Cemiostoma*. The details are most minute, and embrace all that is as yet known of the habits and transformations of these beautiful little insects. The description of each species is illustrated by a series of beautifully coloured figures of the caterpillar, the chrysalis, and the perfect insect, both magnified and of the natural size; and each is accompanied by a characteristic figure of a leaf of the plant on which it is found, as mined by the caterpillar; for, be it known, that these little creatures procure their food by excavating minute galleries between the upper and under surface of the leaf; and it is by observing and collecting such leaves, that most of the modern discoveries in this family have been made. To give some idea of the valuable character of the information contained in this volume, we open it at random, and at page 106, we find *Nepticula floslactella* described. The first paragraph relates to the *Larva*, *how noticeable*; second relates to the *Imago*, *how noticeable*; third, *mode of life*; fourth, *description of the Imago*, this is very full; fifth, *description of Larva*; sixth, *geographical distribution*; seventh, *synonymy*; eighth, *remarks on the synonyms*; ninth, *observations of authors*. We regret that our very limited space will only allow a short extract: we take No. 3. *Mode of Life*. “*The egg is deposited on the under side of the nut, or hornbean leaf, close to the rib; the Larva proceeds to mine in an irregular wavy gallery; the first third of the mine, the excrement forms a line occupying nearly the whole width; then for a considerable distance it forms an irregular series of blackish*

grains, still occupying almost the whole of the mine; in the last third of the mine the excrement forms a row of black grains along the centre of the mine, a considerable margin being left on either side, which appears whitish. When full grown, the larva creeps out on the upper surface of the leaf, and seeks a suitable place to undergo its transformations; it spins a moderate sized rather egg-shaped *cocoon*, of a whitish-yellow colour, the outer portion of which is not tightly woven, but remains loose and flossy; at the proper period the *pupa* thrusts its head through the end of the cocoon, and the imago appears."

We can only further commend this volume and its successors most cordially to our readers, feeling assured that all who become purchasers, will be not only in Mr. Stainton's debt, but also ours, for bringing this admirable history under their notice.

The Natural History Review. No. 7, July; No. 8, October. 1855. London: Samuel Highly. 8vo. 2s. 6d.

WE have before called the attention of our readers to this very useful and well conducted periodical: the present numbers fully sustain the character we gave of a former number, and indeed are manifest improvements upon it. The July number, besides eight reviews, and notices of serials, contains twelve original papers, communicated to the various societies in Ireland. The October number, in addition to the reviews, &c., gives us three valuable papers, two of them relating to the Irish Algæ. Several of the papers are illustrated by plates in lithography, and we are glad to observe that the subject of the Micro-lepidoptera has not been overlooked in the Sister Isle. It is very probable that many additions to our present list may be made by our Irish Entomologists.

The *Natural History Review* is well got up, both as to matter and manner, and we trust its spirited projectors may meet with the reward they deserve.

Miscellaneous.

"*The Crystal Palace Robins.*"—Now, alas! *Matters of History only.*—I was much gratified last year, while visiting the Sydenham Palace, to observe the large number of Robins (all so tame!) that had taken up their quarters in the building; and I wrote a lengthened Paper on the subject, which appeared in *THE NATURALIST*, and excited considerable attention—being copied into all our public journals. So completely were these Robins "at home," that they nested there, introducing themselves and their young families at the dinner table, and going through a whole round of diverting tricks, to the infinite amusement of lookers-on. And how sweetly melodious were their

united voices within those twelve acres of glass! Were ever such strains heard before, under similar circumstances? Never! The little performers positively sang the visitors in, and *out*—trotting along the floors to the very last. It was indeed a charming sight! Their nests were built in those very pretty wire flower-baskets, so tastefully suspended round the galleries. I went again *this* season, to get a peep at my little friends. I listened for them eagerly; I sought for them carefully. I imitated their song. Alas! no response. All was cruelly silent. My mind misgave me that something was amiss. Addressing myself to a young lady, who I rightly guessed was a season-ticket holder, I explained to her the cause of my solicitude, which had not escaped her observation. “Oh—sir,” sighed this fair daughter of Eve, with a seraphic expression of countenance yet visible to my mind’s eye—“those dear Robins, sir, have all been *poisoned*!” I groaned. On further inquiry, I found it was too true. They had been voted “a nuisance!”—and poisoned! Who, after this, shall deny that “Man is a savage?”—*Kidd’s (W.) Treatise on the Robin.*

Song of the Autumn Robin.—It is worthy of remark, that few of the *old* Robins resume their song until the spring. All the music we are treated to from this time to Christmas, is improvised by the young birds of the present year. Its freshness, joyousness, richness, and purity are inexpressibly delightful. Our little friends are honest. All we hear is genuine. They are happy; and they take care to let us know it and feel it. Just now, it does one good to listen to “the autumn bird in russet coat.” The little fellow seems to consider it his “mission” to attend us wherever we go; and to lighten our cares by joyously singing them away. In the garden, in the field, in the lanes, in the wood, in the farm-yard, in the barn, on the old shed,—there he is, looking out for us! And how merrily does Master Bob greet us! His salutation—how frank! I wonder what he would say to those formalists and “fashionables” amongst *us*, who exhibit two flabby fingers as conventional tokens of recognition and affection to visitors and friends.—*Kidd’s (W.) Treatise on the Robin.*

Greater Spotted Woodpecker. (*Picus major*.)—A finely coloured male specimen of this bird was shot at Bottisham, near Cambridge, on the 25th of April, and is now in my collection.—W. C. H., Cambridge.

Crossbill, (*Loxia curvirostra*.) A pair of these birds were shot on the 14th July, 1855, in the grounds of the Clock House, Beckenham. They were part of a flock of about thirty.—F. C. ADAMS, the Clock House, Beckenham, Kent, Sept. 17th, 1855.

During my stay at Southport this summer, I captured a female specimen of *Trochilium crabroniformis* on a willow tree; this occurred on the 26th of June. Is not its occurrence so far north unusual?—CHARLES FRYER, Manchester, July 31st, 1855.

Variety of the Pink-under-wing Moth. (*Callimorpha Jacobææ*.) In the summer of 1854, Mr. J. Fox, one of our best collectors, had rather a peculiar specimen of the Pink-under-wing Moth, (*Callimorpha Jacobææ*), of which I send you an exact copy, which I leave you to describe; the Moth was bred from the larva. Another was captured on the wing, by Mr. Towle, one of our members at Newstead. I took some of the small Tiger Moth (*Nemeophila Plantaginis*) larvæ, in April, 1854: in May, they went into chrysalis; and in June the perfect insect appeared. One pair I observed to copulate, and the eggs I kept until they hatched; and to the larvæ I gave some narrow-leaf plantain, which they soon began to feed upon. They were all in one large flower pot in the garden, and yet one half grew twice as large as the others and I could not account for it. Up to September they fed very well; and all at once they left off, and the large ones began to undergo the change, and by the 5th Sept., I had some twelve chrysalides, the others had been dormant up to March 13th, when some of them began to show signs of re-animation; those that changed in September, lay from the 5th to the 28th, when the perfect fly emerged,—that being the second brood in the year. Is the above a common occurrence?—J. MORLEY, New Basford, Nottingham.—Along with the above, Mr. Morley kindly forwarded a nicely coloured figure of the Pink-under-wing Moth. The parts which are usually crimson, in this drawing were of a yellow-ochre colour. In other respects it presented the usual appearances.—B. R. M.

Callimorpha Hera.—I mentioned, some time ago, in THE NATURALIST, the undoubted fact of a schoolfellow of mine having taken *Orgyia v-nigrum* near Faversham in Kent. Other specimens have recently been taken near Canterbury, in the same neighbourhood. Samouelle, too, gives Darenth wood, also in the same county, as a locality for it. I have recently obtained *Callimorpha Hera* from Guernsey, where Dr. Lukis informed me it is tolerably common; and as this fine species has been likewise expunged from the British List, I mention this that it may be again restored to its place therein. It clearly ought to be so, as the leading and most eminent conchologists and botanists now authoritatively enrol Guernsey shells and plants as British species.—F. O. MORRIS, Nunburnholme Rectory, Hayton, Yorkshire, Aug. 8th, 1855.

Retrospect.

IN No. 56 of THE NATURALIST, page 229, in an article headed Extracts from Correspondence with a Brother Naturalist, by F. M. Burton, Esq., speaking of the Gannet, that gentleman says,—“Its structure is most curious; on the under parts of the body the skin does not, as in all other birds I have seen,

adhere to the flesh, except down the breast-bone, where it is as usual fixed," &c; and concludes his notice thus: "It is strange that Montagu is the only author, among the few whose works I possess, who takes notice of this great peculiarity in the formation of this bird; Yarrell, Macgillivray, and old Bewick, all pass it over in silence." On referring to Macgillivray's *History of British Birds*, vol. v. page 418, I find the following remarks: "Although the history of the Gannet is given much more fully above than in any British work known to me, it is yet very imperfect, there being many details of its organisation of great interest, but for which I have scarcely space left. The skin, which can be inflated by blowing into a puncture made in it, appears as if connected with the subjacent parts only by shreds and cellular tissue." He then mentions what is said by Montagu, and adds,—“It appears, however, much more probable, that the singular anatomy of the Gannet is connected with its mode of plunging after its prey.”

From the above, I think it can scarcely be said that Macgillivray has passed over the subject in silence; as to Yarrell and Bewick, I cannot speak, not being fortunate enough to possess a copy of their works.—JOHN BROWN, Everton, near Bawtry.

October 13th, 1855.

Possibly Mr. Burton may have only referred to Macgillivray's *small* work on *British Birds*.—B. R. M.

The Querist.

WOULD it be correct to term fruit vegetables, or products belonging to the vegetable kingdom? If vegetables, would not a Greengage tart be a vegetable tart? Is not the word "vegetables" applied to such roots and plants only as are prepared for nutriment, taken in conjunction with animal food? Could a tree with propriety be termed a vegetable, or a member of the vegetable kingdom? If a vegetable, would not a grove of Oaks be a grove of vegetables? Established usage, I believe, must be the criterion for decision. For would it not be as ridiculous to call a beautiful Butterfly an animal? the Canary a sweetly singing animal? as it would be to term a Greengage tart a vegetable tart?—G. R. T., March 11th, 1854.

Will any correspondent of *THE NATURALIST* have the kindness to inform me what is the nature of the sticky substance on the leaves of trees called Honey Dew, and whether Bees are in the habit of feeding on it? I have heard the absence of Honey Dew this year given as a reason for the scarcity of honey this Autumn.—T. G. BONNEY, St. John's Coll., Cambridge.

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ILLUSTRATIVE OF THE

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THE NATURALIST.

GEOLOGICAL EXCURSION.

BY E. W.



If your Geological readers will look at any Geological map of England, they will notice a large patch of colour (generally blue,) on the borders of Yorkshire, Lancashire, Westmoreland, and Durham; its shape is an irregular square, indented on the east side by numerous promontories, coloured differently, and on the west side by one long one. This district is the great mountain limestone tract of Yorkshire, the rocks of which form the beds and sides of the upper valleys of all the great rivers which unite in the Ouse, (except one or two feeders of the Aire, which rise in the South Yorkshire coal field, and the Derwent, the sources of which are found among the Oolites of Egton Moor,) and the rivers which water the northern half of Lancashire—the Ribble, the Lune, the Hodder, and others. The great promontory on the west, running so far into the limestone, is formed of the upper Silurian beds, which, penetrating from Westmoreland by Kirby Lonsdale and Ingleton, form a large square patch between Ingleton and Settle, indicating the line of the Craven fault, underlying a greater part of the limestones of Craven, and forming the base of the highest hills in Yorkshire. The promontories penetrating into the mass of the mountain limestone on its eastern side are the millstone grit beds, which everywhere form the tops of the fells which bound the deep valleys, and cap the highest summits.

On this district we made this summer a short excursion; a few particulars of which may prove interesting, if only the mention of its peculiar beauties might induce others to visit a part of Yorkshire not much trodden except by those who know and visit it as being one of the best localities in England for studying great Geological phenomena.

It would be useless to give any detailed sketch of the geology or natural history of the country we traversed, because it may be found in local guides, but more especially in "Phillips' Geology of Yorkshire," our guide throughout our ramble, (for such it was,) undertaken more for recreation than with any scientific object; though no one could pass through such a

grand district without bringing back with him, besides health, many an addition to his store of knowledge.

Our starting-point was Richmond; leaving which we followed the course of the Swale nearly to its source, then crossed the Buttertubs Pass to Hawes, thence, ascending Weddale, we crossed the fells to Ingleton and Clapham, and ascended Inglebro; from Clapham turning eastward, we passed across Ribblesdale, and, by the wild moors at the back of Fountains Fell, returned to Settle; thence to Clitheroe and Whitewell, on the Hodder, and through the Lough of Bolland, to Lancaster.

A description of the character of Swaledale will fully suffice for that of Wensleydale and their branch valleys. Its bed is formed of the Middle Limestone, called by Phillips the Yoredale Rocks; it is narrow, being not more than a quarter to half a mile in breadth, (Wensleydale is broader.) It is abundantly wooded with fine ash, small elm and oak, and a great deal of planted larch; and as its bed rises gradually from the river to the precipitous cliffs of the Upper Limestone, these woods become much thicker, lining the whole side of the valley where the scars are not too steep; and where they are steep they cover with a luxuriant underwood the talus of rocks heaped in wild confusion at their base, and nestled in the rugged fissures of their broken sides, which are covered by clinging masses of ivy, and tinted by the lichens and mosses growing on their weather-worn surface. On the top of the scars the moors commence stretching away for miles in heathy swells, often very boggy; these rounded eminences are formed by the action of the weather crumbling the millstone grit beds.

The vegetation of these valleys is peculiarly rich, and both below and above the cliffs they afford a fine field for the botanist. As they rise towards the sources of the streams which twist through them, they become much narrower, and their sides become higher without being so precipitous; for as the rise of the valleys is greater than the inclination of the beds forming them, in following their course upwards they are found to rise above the upper sear limestone which then forms the bottom instead of the sides of the valleys, and over the edge of which these streams often leap in cascades of great beauty. The woods gradually cease above these falls, but the land on both sides of the stream produces rich grass, hence the staple of these dales is cheese; (what Yorkshireman has not heard of Wensleydale and Cotherstone?) Still higher, the valleys become very narrow, till they end in deep ravines in the moors, where a little stream of dark purple water trickles in dry weather from the bog above, which a rainy morning will transform into a wet spongy mass, and the stream into a sweeping torrent.

A traveller will find that a combination of riding and walking is preferable to a fixed adherence to one fixed mode of progression; riding gen-

erally along the more level country, and facing the hills on foot; so we preferred riding from Richmond to Muker, where the ascent of the Buttertubs Pass begins. The scenery along this route is such as just described, heightened to us by the bright light and pleasant breeze of a lovely July morning; and though the mode of travelling adopted was incompatible with close observation, we could not help noticing how closely autumn seemed this year following summer; the great heat of the few past weeks seemed acting on vegetation as it does in the Arctic regions, and numbers of flowers which in this month usually make the banks gay and lively, were already maturing their seed, though it is a late year.

We passed groves of the Dogwood, (*Cornus sanguinea*,) in full bloom, and covered, as it was, with a foam of white blossom, it was a beautiful object amid the dark foliage of the bird-cherry and holly. The meadows were full of the Sweet-scented Orchis, (*Gyanadenia conopsea*,) which seems to abound everywhere in the limestone; and we picked up *Arenaria verna* on a bank of sand and stones formed by the edges of a freshet. From Muker across the Buttertubs is the road to Hawes; it is a wild lonely way, following the ravine made by a torrent which descends between Shumner Fell and Lovely Seat. The first-named hill is an extensive moor of great elevation; from the carboniferous rock forming its summit a slaty coal is mined, which is used by the lime-burners and in the smelting houses of the lead-mines.

On the shoulder of Shumner Fell, where the road reaches its culminating point, it passes by the so-called Buttertubs, which give their name to the Pass. These are large deep holes in the bare moor, where the Limestone is the Productus bed of the Upper Series; they are curious instances of the power and action of water. Many of the Limestone beds have a tendency to split through the thickness of their mass into huge rhomboidal columns, (the form of their primitive crystal,) as may be seen in the bed of any stream that flows over this rock; all disturbances, therefore, cause it to fissure in parallel lines. These curious pits shew this action well. They are formed in various stages of growth, if the expression may be permitted; sometimes there is only a funnel in the bog-earth, and a crack in the bare rock; in the next this crack becomes a deep rift widened by water, which passing into its depths has worn round cylindrical channels down its sides; in the next there have been two fissures, with the separating mass of rock worn away in the direction of the line of crystalization, thus uniting them by a diagonal fissure; in another this mass is worn away entirely, making a deep wide hole; others are composed of three or four, or more, of these parallel fissures, with the separating walls more or less worn away, sometimes entirely so, when there is a yawning gulf of a hundred feet or more; sometimes only partially worn, when huge walls of

rock project into the excavation, and giant columns spring from its depths and assume most fantastic shapes. These walls and columns and the sides of the pits are furrowed, and deep round channels are cut in their sides by the gurgling waters which have poured into them, making deep funnels, most probably by means of stones twisted round and round by the boiling waters; this action may be seen anywhere on a rocky shore.

But perhaps these Buttertubs will be better understood by describing one in another part of the country, where the powerful agencies which created them are still at work. In a hollow on the moors between Inglebro and Meughten Fells, a tiny rivulet has cut a deep channel in the black peat; collecting the waters of the bog, it increases in bulk till it becomes a small stream; as its course is followed, it is found to have worn its bed down to the Limestone, and huge stones encumber its descent. Suddenly the water disappears; following the dry bed it is found again rising from the crevices where it has been sucked in; the bed becomes rougher and more rocky, and twenty feet at least below the level of the moor; in this bed the stream foams and tumbles, till the whole of the water precipitates itself into a deep hole twenty feet in diameter, and from two to three hundred feet in depth. It owes its size entirely to the action of the stream, which must have worn it for ages. The sides are quite precipitous, rather overhanging at the top, and on looking down, nothing but a pale blue mist can be seen—the spray of the falling water.

Though larger and consequently grander than the Buttertubs, this deep cavern, (Gaping Gyll, as it is called,) is not so picturesque; the water has been working at it longer, and has worn away those elegant columns, and smoothed the rugged sides which add such a beauty to these romantic caverns; nor is the vegetation so luxuriant as in the Buttertubs, the whole of which support a magnificent crop of Ferns, flourishing luxuriantly in these cool, shady, moist, and sheltered hollows; their edges are fringed by the hardy *Blechnum boreale*, and numerous *Jungermannia* tinge the rock with their rich green. The pools swarm with a little fresh-water crustacean.

From the top of the Pass half-a-mile higher than the Buttertubs, the eye ranges over a wide horizon; to the north as far as Water Crag and the Nene Standards; to the south, the broad top of Inglebro towers high above the surrounding summits, which compose Carn Dod, the fells at the head of Raydale, and a tossed sea of mountains which cluster round the hollows of Dent and Sedbergh. In the descent into Wensleydale we gathered *Lycopodium selago*, and started one or two Ring Ouzels—not a common bird in this country.

The road at about a mile from Hawes passes Hardraw Scar, a beautiful and well-known waterfall; the stream falls over the edge of that band of

Limestone which at Dent produces the shell marble, and has worn the hollow at the foot of the precipice out of the laminated grits and shales which overlies the Lower Scar or Main Limestone. The latter appeared, for the first time in our route, at the bottom of the valley in the bed of the Ure. The hills on each side of the valley rise through the Yoredale rocks or middle series of the Mountain Limestone, and are surmounted here by the Upper Scar Limestone.

In the fields near Hawes, we gathered *Epipactis latifolia*, *Orchis latifolia*, *Listera ovata*, besides other common species, and noticed the luxuriance of the beautiful melancholy Thistle.

We left Hawes by Weddale; the morning was misty, else the road over Carn Fell is better worth climbing; following the course of a stream rising in the ridge between Hawes and Ingleton, this valley is excavated in the middle, surmounted on the south by the beds of the Upper Limestone of Carn Fell, which here thin out very much, and capped by the Millstone grits of Carn Dod. The same formation shews itself on the north side, except that the hills clustering round the base of Whernside are much lower than Carn Fell. On reaching the water-shed at Gearstones or Deerstons, the whole face of the country changed; to our left stood the broad base of Pennyghent, its top shrouded in mist; in front rose the tabulated summit of Inglebro; and to our right, the long ridge of Whernside. Two slight depressions mark the heads of Ribblesdale and Chapel-le-dale, which divide these hills, and whose streams have cut deep beds through the Lower Limestone, exposing fine sections of the Silurian rocks, which form the base of all these hills.

But the peculiar feature of the country is the Lower Limestone; it stretches away for miles across the moor in straight lines of mural precipices a few feet high, and when it begins to skirt the sides of the deep glens, it descends in a series of step-like scars, of no great height, but most regularly formed; while above it spreads out into immense tables of dry bare rocks, without a blade of grass except in the cracks and fissures of the Limestone. These rocks form the platforms upon which stand the hills before us, which rise through Yoredale and Upper Scar Limestone, and are capped by Millstone Grit, in some of them worked for its coal.

The moors of this district are very dry, the rocks being so fissured and broken that the streams flow in caverns far below their surface. On the road to Ingleton many of these curious caverns are passed. We gathered the Blue Butterwort, (*Pinguicula vulgaris*), *Arenaria verna*, and *Saxifraga aizoides*. As we descended to Ingleton, between Inglebro and Whernside, the Silurian rocks became visible in vertical strata underlying the Limestone; and here we first came on the line of the Craven fault, which has thrown down the upper rocks to such an extent that at Burton, near

Ingleton, coal is worked on a formation which a few miles to the north is found at the very summit of Whernside.

Leaving Ingleton and its pretty river, skirting the base of Inglebro, and following the line of the Craven fault, we reached Clapham, where are the celebrated Inglebro caves, and from whence is the easiest ascent to the top of that hill, the central summit of the group, and the view from which is the most varied and extensive.

The cave above Clapham is in a deep glen, amid a mass of most picturesque wood. The entrance is at the foot of a high Limestone precipice; on one side of it, from under a dark rocky arch, like that of a glacier, issues a full stream, connected with that of Gaping Gyll, (a deep hole at the foot of Inglebro,) and receiving the waters which run through the cave. As we entered it we heard them on all sides, moaning as they forced a way through its narrow and devious passages, splashing as they fell from rock to rock in its hidden recesses, now issuing into the cave and dancing along in the more open channel, then with a bubble disappearing down some funnel-like cavity, then reappearing and forming deep clear pools, the transparent depths of which shewed beds of silvery white spar, and whose sleeping surface reflected the elegant yet fantastic shapes of the sparkling snowy stalactites that hung from the roof.

The cave is formed between two beds of rock—possibly by the erosion of the softer parts, perhaps by a slip of the beds on each other, when their surfaces would of course no longer fit closely. It is low and very wide in proportion at its entrance, extending on both sides till the floor and the roof generally meet each other. As we passed into the cave it became more confined, the sides being filled up with stalactite matter which is continually, though very slowly, finishing its task; in many places it is so low that we could only get on on our hands and knees. The stalactites are found most frequently on the lines of fracture which cross the cave, and, where the rock being broken the roof rises higher than usual, their form is generally a mass of circular pendants; or else they assume the form of a tightened skin, tapering at the bottom to one side, owing to the water running down the opposite side, and increasing the stalactite laterally. They are peculiarly musical, and when struck by the guides give out beautiful tones. These are the places where the water oozes drop by drop from the fissures in the Limestone, which have permitted it to penetrate slowly through its mass, collecting in its progress the Carbonate of Lime which it here deposits.

(To be continued.)

REMARKS ON THE COLLECTING OF OOLOGICAL SPECIMENS.

BY HENRY SMURTHWAITE, ESQ.

DURING the last twenty-five years of the present century, a pursuit, or, if it may be so called, a science, has been gradually gaining ground among that mixed and curious race of people who style themselves "Naturalists."

It was originally, I believe, confined to those ragged denizens of our country hamlets, who, escaping from the thralldom of the village school, spent the greater part of the stolen hours in "nesting," that is to say, in abstracting from the "procreant cradles," of every Chaffinch, Song Thrush, or Blackbird which they met with, the eggs it contained, and having strung these together, by means of a couple of yards of coarse thread, hanging them up in some conspicuous part of the family mansion, from which state of exaltation and preferment, they were, in most instances, speedily ejected by a ruthless foe, in the person of the "ladye-mother."

It was not long, however, before individuals, in a far higher rank of life, and more advanced state of education, began to give their attention to this branch of the great stream of ornithology. Dr. Latham and Colonel Montagu were about the first who formed collections of the eggs of British Birds, and, since the death of the former individual, the adherents of this fascinating pursuit have annually become more numerous, so that, at the present day, "Oologists" are quite as plentiful and persevering as their older brethren—Entomologists and Conchologists.

I am aware that egg collectors are much less popular than followers of either of the last-named sciences; but I cannot help thinking that those who condemn the practice altogether, judge rather too hastily. Did it tend towards rendering the hearts of mankind cruel and unfeeling, we should not, I am sure, find so long a list of amiable and excellent men, who have been either lovers, or, at least tolerant, of Oology; I have remarked too, that the greater number of those who are the most bitter assailants of "the barbarity of robbing birds' nests," are themselves collectors of natural objects, and the very men who would place their "Veto" on a cabinet of eggs, would hang with enthusiasm over a fine specimen of *Sphinx atropos*, dilating on the wiles employed in capturing it, and on the means by which it was deprived of life.

Disregarding, therefore the paltry objections of such persons, it must be confessed that few pursuits can equal, in charm and interest, the one now before us. He must, indeed, possess but a very dull and stagnant mind, who can contemplate without emotions the most pleasurable, the many lovely scenes which come under the observation of the Oologist, whilst en-

gaged in his favourite pursuit; take, for example, the beauties which the fells and hills of some of our northern counties present:—

It is early morning, in the month of May or June, and we will suppose the reader to be standing by our side on the slope of one of the mountainous eminences which are so frequent on the borders of Westmoreland and Yorkshire. A heavy grey mist hangs over the surrounding country, through which the rising sun is endeavouring, ineffectually at present, to penetrate. Unable to see three yards before or on either side of us, we rest for a short time on a fragment of stone, and whilst in this situation we hear the crow of the cock Grouse within a few feet of us; suddenly his cry is hushed—a sure sign that our presence has become known to him; almost at the same moment the sea of mist is violently agitated, the grey pinnacles of rock above our heads, as if striving to shake off the embrace of some huge giant, are visible for an instant, and then quickly disappear.

Again and again is the struggle renewed, until at length, with one vast shudder the mist recoils, and slowly rising, discloses a scene which for a moment compels us to pause and gaze in admiration. Far beneath stretches one of those long expanses of meadow-land, which painters love so well to delineate, unbroken in every direction, save by the tiny course of some small mountain rill, which hurries along with innumerable windings, until it is lost in the far distance. Behind us rises the steep slope of the mountain, faced by immense masses of rock, fringed with numerous ferns and long tendrils of ivy. Whilst we are yet gazing on them, suddenly shoots forth, on almost silent wing, a large and handsome bird; for a moment he seems inclined to dash onward far into the open country, but catching sight of us as we stand motionless, he hangs suspended high in air, uttering at the same time a low complaining wail, which is almost immediately answered from the summit of the crag, and he is joined by another of his species. We now perceive that they are a pair of Buzzards—a bird which, though annually becoming more rare, is still not uncommon in some parts of Westmoreland and Yorkshire. Together they float at a great elevation, uttering at short intervals their mournful cry; but as we slowly retire from the spot which they have fixed upon for their abode, they become fainter and fainter, till at length the bird last observed turns, and again seeks the shelter of the cliffs.

We pursue our rout along the steep mountain side, meeting with various members of the winged tribes. The Snipe starts from his nest at our feet with that peculiar cry which has earned him the name of Heather Gort; Curlews wheel around in abundance, and occasionally we catch a sight of the sprightly little Dunlin (which is much more abundant on the fells than is generally supposed,) as he quits the shelter of a tuft of rushes or hea-

ther. From the long grass we arouse numbers of Meadow Pipits; and out of the small groups of bushes which are visible here and there, is borne the monotonous cry of the vagrant Cuckoo.

But it is not in mountain scenery alone that the Oologist finds pleasure; the wood, orchard, and meadow, the old ruin, and the river's bank, alike afford him delight, and I confess that it will take more than ordinary persuasion to induce me to believe that this delightful pursuit can be anything but a source of gratification and instruction to mankind. That it is daily becoming more extensively known and practised is evident; it has even added a new branch to our trades—that of an egg-dealer, and has obtained such a number of supporters from those who are in the highest sense of the word Naturalists, that we must suppose that so long as a love for Ornithology exists, so must it also for the sister science Oology.

I will hereafter, D. V., say a few words on the actual collecting and arranging of eggs.

I should say that the eggs mentioned by a correspondent this month as being somewhat like those of the Nightingale, but less bulky, were decidedly those of the Sedge Warbler; some in my own collection are very nearly as dark in colour as those of *P. luscinia*, and are all marked with black hair-like lines.

Richmond, October.

THE COMMON TOAD, (*BUFA VULGARIS*.)

BY J. M'INTOSH, ESQ.

THE Common Toad, (*Bufo vulgaris*), is one of the unfortunate reptilia that is unjustly, I may say ignorantly, considered “the most deformed and hideous of all animals;” and what is worse, the butt for every idle and ignorant barbarian to aim at! Indeed it is quite remarkable in the nineteenth century, celebrated as it is for its free and universal diffusion of knowledge;—but not a knowledge of the beautiful works of creation, I am reluctantly compelled to say. Nor is there any chance of the rising generation that is, and is to come, becoming more enlightened or rational concerning such things, until Natural History is made a standard part of education in our schools. How many *Sage* persons do we actually find afraid of this harmless and interesting reptile, who seem to have cherished such prejudices from their childhood. In fact, children are taught from their infancy to look upon the Toad with horror and disgust. This probably in part arises from the circumstance of some authors having alluded to it in their writings in a doubtful manner; as Shakespeare, who, in his “As you like it,” says—

“Sweet are the uses of adversity,
Which, like the Toad, ugly and venomous,
Wears yet a precious jewel in his head.”

Now, with a view to banish from our minds such absurd and unjust antipathies towards this unfortunate reptile, which is not only inoffensive, but of the greatest service to us in preserving our fruits and flowers from the ravages of injurious insects, I purpose to give an outline of its history, manners, and utility, which I hope will be the means of sparing the life of many a poor Toad. It is a fact well known to every Naturalist that the food of the Toad consists of insects; though all of them are perhaps not aware of the extent to which it preys upon the larger *Coleoptera*, and chiefly of the Carabideous kind. I have frequently found in the stomachs of these creatures the heads, thoraces, and elytra of *Steropus madidus*, a very common insect under stones, *Omaseus melanarius*, also a very abundant species, *Calathus melanocephalus*, and *Cisteloides*, also common; I have also found the elytra of some of *Curculionidæ*. It also devours immense quantities of worms, slugs, earwigs, caterpillars, ants, woodlice, and flies of various species; I have seen a Toad dispatch thirty of these pests in two minutes. They also devour the common wasp, (*Vespa vulgaris*,) *Bombus terrestris*, and *Apis mellifica*, catching them with its viscid agile tongue, with a rapidity that the eye can scarcely follow: never is the aim missed. The prey touched by the tongue adheres firmly, the viscid saliva being very tenaceous, and is instantly carried to the back of the mouth and swallowed. The senses of taste and smell are not very acute; their sight, however, is quick and accurate.

The usefulness of the Toad in gardens, particularly under frames in green and hothouses, cannot be too highly estimated; and instead of being considered a useless ugly reptile, to be kicked out of the garden or stoned to death, is worthy of all the protection the horticulturist can give it; it is really deserving of a shady snug corner in every greenhouse, where it may be petted, and its curious and interesting habits observed; for in this situation the Toad is “a pearl of great price.” They are easily rendered familiar, and susceptible of no inconsiderable degree of attachment to those who treat them with kindness.

Like the rest of the Amphibia the Toad becomes torpid during winter, except in hothouses; in this torpid state they may be generally found in some retired and sheltered spot, as under large stones, etc.; and there they remain until the return of spring calls them into a state of life. The Toad has frequently been found in holes in rocks and hollows of trees, whither they had no doubt resorted in search of insect food, or for shelter, and where they have remained until the cavity has become partly-closed; which has given rise to many absurd tales respecting their having been

imbedded in these retreats for a thousand years—the living relics of a world gone by, and coeval with the rock around them, which stories are mere imaginations of the brain. Virgil says—

“And Toads in crannies found.”

Superstition and credulity are by no means confined to the vulgar and illiterate; the minds of the better informed are often biased by such influence. That they are frequently found in hollows of trees and rocks, we are perfectly satisfied, having found them in such places ourselves; but there has always been some small aperture more or less communicating with the external surface, by which they have received air and nourishment. In all the accounts which we have read of the discovery of imbedded Toads and Rats in wood, stone, and coal, the discoverers have paid more attention to the appearance of the Toad than to the minutiae of the cavity in which it was contained; no doubt the blow of the hammer or the axe which set them at liberty destroyed all trace of the orifice or fissure which admitted them, and through which they receive food and air till they grew too large to make their exit. From experiments made by ourselves, we have arrived at the conclusion that the Toad cannot exist a year totally excluded from atmospheric air and food. Here, however, let it be observed that we are open to conviction.

We have now arrived at another very interesting point in the history of the Toad, namely, its manner of birth; and what we have to advance on this disputed subject shall be brief. The Toad is not only oviparous, but viviparous, according to circumstances; and there does not seem to be anything in this theory so difficult to admit, as some writers have asserted, when it is remembered that *Aphidæ* and some of the *Muscidæ* are endowed with the same power. Moreover, the German naturalists have asserted that some Lizards and Snakes become viviparous when they are confined to dry situations. In the same manner, when Toads are secluded from water they are no longer oviparous, but viviparous; as any one sceptical on this point may prove to his own satisfaction, if he has the power to throw off his absurd idea of horror and cruel insults and persecutions to which the poor Toad has been subjected, from the days of *Æsop* to the present day.

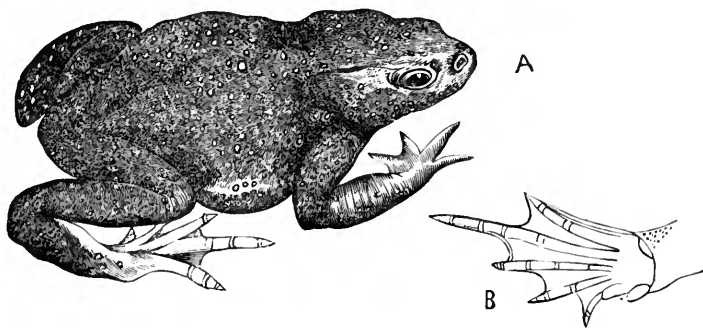
The popular belief in the poisonous qualities of the Toad has some truth in it. The milky secretion contained in the dorsal and parotid pustules is a thick, viscous, yellowish liquid, smelling very strong and acrid, and is intolerably bitter. In order to prove the poisonous qualities of this secretion, we tried the effects on two small birds—the Sparrow and the Chaffinch, and found they died without convulsions in ten minutes. We also find that M. M. Pierre Gratiolet and S. Cloez, in the “*Comtes Rendus*,” have proved by a series of experiments that this milky secretion is poisonous

to small birds, as the following quotation from the said work will shew:—

“We tried the effect of the secretion of the Common Toad on several small birds; they all died in five or six minutes, but without convulsions. They opened their mouths, tottered as if drunk, and had evidently lost the power of regulating their movements. At the end of a few seconds they shut their eyes, as if to sleep, and fell dead.”

“The secretion from the Toad killed birds after it had been dried; two milligrammes of the dried poison killed a Chaffinch in a quarter of an hour. The poisonous quality of this secretion is not destroyed even though its acidity be neutralized by potash. We have not ascertained what internal derangements are produced by these poisons; but we constantly found in the birds which were killed distinct symptoms of apoplexy in the region of the brain.”

The above experiments clearly prove that the notion of the poisonous qualities of this milky secretion of the Toad is not without foundation; but that its bite, its breath, or even its glance, are fraught with death, etc., are absurdities which we hope we have already overthrown. Our opinion respecting the use of this poison is, to defend the reptile against its enemies, which are not a few, and that it is not injurious except by inoculation, and that in rather large doses.



The Toad has only four toes on the fore feet, as shewn in our figure A, and five on the hinder, as shewn in the figure B. They are not webbed as in the frog, but there is a small membrane at the base, as shewn in the sketch. The usual pace of the Toad is a kind of crawl, but it has the power of leaping, and that to a considerable distance, though not with the harlequin agility of the frog. When alarmed or threatened with danger it stops, swells its body, and remains till all danger is over, as motionless as a stone, when off it crawls to some quiet corner. If when frightened, it is taken up in the hand, small quantities, from time to time, of the cutaneous secretion exudes from the follicles on the hand, as also

a discharge of limpid water, which is generally supposed, but incorrectly, to be the urine, is by no means deleterious, and in my opinion is only used as an engine of defence, just as a cat will scratch, or a dog bite, on a very slight provocation.

It casts its skin as snakes and caterpillars do—it pulls off its old coat, which splits down the back and belly when it is too small, with the assistance of its arms and mouth; and Mr. Bell, in his “British Reptilia,” says, rolls it up in a ball and swallows it. In reference to this statement, I must confess that I have never observed them guilty of such acts of cannibalism, as I have found their skins floating on the water, or on the cellar floor, in which I have had them confined for observation, and in the words of the poet must now conclude:—

—————“The slippery toad
Casts off his vesture in the thorny shade.”

OCCASIONAL NOTES.

BY MR. M. WESTCOTT.

The Adventures of a Cat and Kitten.—A few weeks since, a Cat and Kitten, kept in the Wells Brush Factory, were missed for two days. The old Cat being a valuable one, every inquiry was made about her during the period, without success, and she was given up as lost. However, on the return of Mr Parsons’ waggoner from Bridport, where he had been with a load of brushes, to the no small surprise of the inquirers of Puss and Kitten, he turned them both out of a bag in which he had them confined. They all were anxious to know how he came by the “lost goods,” and put a dozen questions to him at once about them. But the only explanation he could give, was that as he was going on to Bridport, “he kept on hearing the mewing of cats, but ’t was a mystery where it came from.” But when he unloaded the brushes, the mystery of the mewing was unravelled, for lo and behold, there were madam Puss and her little Spitfire, rolled up in one corner of the waggon, as comfortable as could be, and shewing no signs of “quitting the premises.” The waggoner knew the cats, but, of course, it was a puzzle to him to know how they came there. However, there they were; and to make sure of their being “returned in good condition,” he gave them some meat, and tied them up in the bag as “per delivery.”

The only way to account for the cats being in the waggon is, that after it was loaded, (not before, as they would sure to be seen,) careful Puss not liking the site of her little one’s bed, conveying her to the vehicle, deeming it a safer nursery, and not so subject to the “rude stare” of passers by. And to make Kit contented in her new quarters, she lay

with it herself, and sung it to sleep; and, no doubt in the mean time, enjoyed a nap herself, not dreaming, however, of her approaching journey.

The old Cat is the mother of the "*mony-toe Kitten*," noticed in the "*Naturalist*," page 66, vol. iv. And her present little adventurer is possessed of four toes more than ordinary. The distance they travelled altogether is something more than eighty miles.

The Bittern, (*Botaurus stellarus*.) I saw a very fine male bird of this species, which was shot a few days ago about four miles from here. It was in the water when fired on, and, being only wounded in the wing, tried to escape. A dog went in pursuit, and when he nearly came up, the wounded bird prepared to meet him by spreading his tail feathers, opening his wings, arching his neck, gave a "war cry," and then with piercing eyes he glared upon his assailant, who after receiving *one* thrust from the valiant bird, could not be induced to undergo the infliction of a second, but kept running round, in hopes to find some easier way of attack; but the same "angry front," and blood-stained mandibles presented themselves to the dog—turning as he turned, and so kept him at bay. However, a second shot ended the scene, *and laid prostrate both the dog and bird!*

The Bittern is very rarely met with in Somersetshire, and indeed it seems to be getting scarcer in England every year. For in many places where these noble birds used to be plentiful, there is scarcely one of them to be met with at the present day. This melancholy fact for the Ornithologist—yes, and for every lover of Nature—is becoming more and more apparent, and may perhaps be accounted for in two ways. First, the wanton molestation which they receive from the merciless *gunner*, as a matter of course, must every year thin their already scanty numbers. For as sure as one of them approaches the habitation, or within sight of the watchful (fowler?) a gun is sure to be brought into requisition, and its murderous contents hurled against the stranger, who brooding no evil himself, anticipates none from others. Poor unsuspecting bird, thy life has paid the forfeit!

The second great increasing cause of the scarcity of the Bittern, may be attributed to the cultivation and drainage of waste lands. It is well known that whatever parts of the country undergo such changes, are sure to be deserted by the Bittern, although they might have been chosen spots for many years before. But these remarks hold good, not only with the bird in question, but likewise with many of our charming British birds, which are only met with now as "stragglers," and even as such they seldom appear in any part of the country without being a mark for some one to shoot at. Why, it may be asked, is man such an inveterate enemy to these little feathered characters, that make pleasant our rural walks—cheer-

ing our hearts with their melodious and never-dying song? Why? it may be asked; and echo answers, Why?

If men who wish to record facts connected with Natural History, were to lay aside their fatal gun and love of slaughter, and encourage the presence of these beautiful, and not more beautiful than useful, little creatures, by allowing them to remain unmolested, where they long "lived and loved together," we should not have to deplore so frequently the "shyness," "scarcity," and, I may add, the total desertion of many species from localities in which they formerly used to abound.

"Havoc among the Sparrows." Here is a specimen of the result of a "little knowledge" of Natural History. A paragraph which found its way into several Journals headed as above, and runs as follows:—"We understand that the Nailsea Association for the destruction of Sparrows and other small birds, have offered several prizes, to be awarded on Easter Monday next, at the Royal Oak Inn, Nailsea, to the person who shall produce the largest number of heads of small birds." Now I should really like to know if the members of this grain-begrudging association intend having the heads of these small birds dished up to them for supper at the Royal Oak Inn, if so they must be singular epicures to set their stomachs upon such tiny morsels, when they could purchase a dozen sheep's heads for half-a-dozen shillings, which would yield them a much more ample meal, and, moreover, would be better representatives of their own craniums. If the bird-catchers and other celebrated notorieties were to sally forth with trap and gun, and succeed in destroying all the "Sparrows and other small birds" in the neighbourhood of Nailsea, I would not sympathise with the farmers for the loss that some of their crops would surely sustain, from the ravages of insects in various stages, which constitute the principal food of these outlawed, "mischievous," birds. Surely there does not exist a Natural History Society in Nailsea? If there did, I should suppose that some one of its members would take upon him to plead the Sparrow's cause in open court." And as he would be well acquainted with his client's character and mode of life, and by placing his petty pilfering tricks, (for it must be admitted he as some faults—who has not?) in juxtaposition with his interesting habits and useful qualities, I may venture to predict that Mr. Sergeant Sparrow-friend would not have pleaded in vain. And there is no doubt but when the members of that shameful association become better acquainted with the habits and economy of the objects of their destructiveness, they will feel inclined to be better friends in future.

If they read Buffon's account of this self-same Sparrow, they will see that he estimates a single pair of these "mischievous" birds to destroy no less than four thousand caterpillars in a week. What then must be the number collected by the Sparrow population, in the neighbourhood of

Nailsea, during the breeding season? And it is not only the caterpillars they destroy, but likewise the would-be founders of vast colonies of these ravenous creatures. How little then of this bird's history is known, or if known, how meanly appreciated. Who has not seen a Sparrow in the summer-time dart after a Cabbage Butterfly, and make a meal of him; or convey the captive to their chirping little ones, which are perched on an old apple tree close by, or pushing their little heads outside their feather-lined nest.

The Otter, (*Lutra vulgaris*.) In the early part of last spring, as Mr. Tayler, brush-maker of this city, was walking by Dulcot river, accompanied by his dog, he heard a sudden splash in the water. The dog started to the spot, and having strong scent of something, instantly plunged into the stream. The river here formed an angle, and ran under a thick cover of alder brush-wood and nut bushes, and the water was about four feet deep. The dog had not been hunting long before he started a fine Otter, which plunged under the cover, but not quick enough to prevent being laid hold of by his pursuer. The bushes were so thick that Tayler could only catch a glimpse of his white terrier dragged under water by his powerful antagonist. This was too much for Tayler; so he ran along the stream until he found an easy place of access to the other side, which he soon did, and then he was an "eye witness" of the affray. His dog had still a firm hold of the Otter, and in return the latter retained a firm grip of the former, whose blood-stained skin plainly told how severely he had been punished by his amphibious combatant. Although the Otter was toothfully engaged, still he did not like the appearance of the dog's master, and strove to his utmost to make both himself and the dog "invisible" under cover, which he now and then accomplished. But of course Tayler did not like to see his little dog cut and hacked, and covered with blood, and the next moment dragged under water to be washed white again; so he jumped into the water, and succeeded in giving the Otter a few well-aimed blows with a stout cudgel, which had the effect of speedily putting an end to the affair.

He measured three feet nine inches from nose to tip of tail, and his bulk altogether may be gleaned from the fact of his weighing something more than twenty-eight pounds. It was thought for a long time before that an Otter infested the stream, but it had not been clearly proved by a sight of the animal before the above event. The remains of some fine trout was occasionally met with lying on the banks. It seems that he fed sumptuously on the aquatic inhabitants, as he was uncommonly fat. It is more than probable that he would not have been taken by a single dog, if Tayler had not assisted, as he was eight pounds heavier than his assailant, which I believe was a great advantage on his side.

The skin was well mounted by Frank Sheppard, Esq., in whose pos-

sion it is at the present time, together with many other quadrupeds, birds, insects, etc.

The Primrose, (*Primula veris*.) On January 17th. several fine clusters of these ever-pleasing flowers greeted me as I rambled by a little stream; a sight which I think will not be witnessed on the 17th. of February next.

The Contrast. The following note taken by me last year, forms a strong contrast with the present severe frost. The extraordinary fine weather we had this spring, was very favourable in bringing out our early flowers and insects.

On the 14th. of February I saw a Brimstone Butterfly; on the 15th. met with four Peacock's Eyes, and several Small Tortoise-shells. On the 18th. of March the Small White Cabbage Butterfly appeared, and on the following day I observed the Orange-Tipped and Wood-Ringlet. On Good Friday I saw a Grizzled Skipper, and four or five Sand Martins, and two days afterwards the Chimney Swallow and Martin, (*Hirundo urbana*.)

I have no doubt some or all of the above species were seen earlier than I have recorded, by others who have better opportunities of observing than I have. But, however, be that as it may, it is a very rare occurrence indeed for them to be seen in this locality so early in the season.

Saint Cuthbert's Street, Wells, February 9th., 1855.

STRAY NOTES.

BY O. S. ROUND, ESQ.

SINCE I last wrote to you, I have been ruralizing in Gloucestershire, and give you the result of my observations, as connected with Natural History. The country was new to me, so that novelties (to me) struck me the more forcibly; but there were some curious things also, which I think should be noted, if they have not before been made the subjects of observation. As I have wandered about England, the Mistletoe, (*Viscum album*,) has been a favourite object with me, and I have observed the localities and trees which it affects. Now it appears mostly on the Thorn, white or black, then on the Elm or Beech, sometimes on the Oak, and I have seen it on the Horse-Chesnut and Hedge-Maple; but in a very picturesque locality near Dursley, in Gloucestershire, where I have been staying, the old fruit-trees of all kinds are covered with it, even a Walnut had a rare crop, vide "The Naturalist," vol. ii., page 183; but at the time I left, either boys, the type of all mischief, or some other depredators had shorn it nearly all off except the stumps, which were sufficiently numerous to attest its presence, and that, if permitted to grow, it would make a Christmas show yet.

The county is covered with Beech Hangers, and after rain it is very pretty to see the little *curls* of mist in spiral columns, revolving themselves from the leafy sea; it is these things which brings to one's eye, as it were, the constant supply and demand which is going on around us, and reminds me of the first time I was *in* a shower; it was in Borrowdale, and I had scrambled up pretty high, when the mist, in the midst of which I was, became strangely agitated by contending currents of air, moisture, and temperature, no doubt in action, or rather causing the movement; and all at once big drops fell out of the mist, and were actually condensed all around within a yard of me. The soil near Dursley is argillaceous, and the pulverised stone, a free rubbly one not unlike that found at Selborne, Hampshire; when moistened is very like potter's clay, and gets soapy and slippery, so that good ladies hereabouts mount on pattens, and so throw off their allegiance to thick shoes, whilst the gentry come out in steel-pegged boots, as the only means of keeping themselves upright. The pasture, however, for it is a verdant valley, is exceedingly rich—the finest grazing county in England I should think; and the hedges teem with *Scolopendria*, which in some localities, I am told, are as thick and high as to be a good cover for game. I brought a glorious basket-full, and they quite seem to luxuriate in the change of air, having never missed the moving, and looking as green and flourishing as ever. In the immediate neighbourhood of my residence, (Bagshot Heath,) although we are rich in *Filices*, we have no *Scolopendria*, although they are found about ten miles off, beyond Windsor, so that I was rather surprised the other day to find two delicate plants of the common kind, (*Vulgare*,) growing in 'a little air-shaft, leading from a cellar in the village; I had heard of it, and went to ascertain the fact, and, sure enough, there they were, one above the other, clinging to the wall quite a picture, but, notwithstanding, I bore off the prize, and put it in our "rock." They grew on the bare bricks, with no more earth than creeping mosses usually find; but this is a digression, for I had another try when in Gloucestershire, to bring away a *Cistopteris Fragilis*, but although I took great pains, and moved it with plenty of earth, as I thought, it became speedily defunct, and I failed therefore to preserve it; but I shall not be disheartened, as I know a lady who brought one successfully from the Pyrenees. There appears to me to be three distinct species of *Scolopendria* growing near Dursley, the common, a light green and narrower one, and a smaller broad-leaved one, that is the *S. vulgare*, the *S. Crispum*, and the *S. Angustifolium*, at least they seem to answer to the plants so named by Mr. Moore. I likewise found the *Asplenium thelypteris* in fine growth, but I had enough luggage, and doubted that it would come safely, so it still flourishes outside the garden-wall where I discovered it. I think these are all the observations I was led to make of this district,

at all events so far as soil and its products are concerned; but I shall probably repeat my visit, and have more leisure to *poke* about in search of curiosities, and if I find any, be assured that you shall have the result.

London, November, 1854.

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

A systematic catalogue of Nature is the one thing which, more than any other, seems to me to be wanting to students of her page, a true 'pagina pulchra.' As it is at present, when any new species is discovered, and even, it may be, duly chronicled, its proper place as a component part of the great whole is not taken: although "secured" it is kept outside the door, in this or that volume, probably of a periodical or magazine, and though there to be found by those who will take the trouble of hunting for it, with or without a clue, yet to all others its existence remains as unknown as if it had never had being, or had never been introduced to the acquaintance of science.

Too well I know not only how imperfect any first attempt at supplying such a desideratum as that I have thus briefly indicated the want of must be, but how still more imperfect such imperfection will appear in an essay made by me towards the filling up the void. Still I am so deeply convinced of the greatness of the want, that I have determined to endeavour to carry into effect the idea which I have long wished and intended to make an attempt to work out. It will, however, even though most deficient, be still so extensive in its development, that I must not take up a single line that I can help, even with the most necessary apology. I will but therefore say in brief that the following is only meant to be as it were, a first and rough "Proof-sheet" of an "Annual," which, when once brought to its temporary end, may then be yearly "revised," with "corrections and additions;" until at last, long probably after I myself shall have left the scene, it may, 'teres atque rotundus,' shew in one wide but comprehensive view the vast extent of the works of the GREAT CREATOR.

ORDO I.—BIMANA.
FAMILIA UNICA.—HOMO.
HOMO.
Homo sapiens.

ORDO II.—QUADBRUMANA.
FAMILIA I.—SIMIA.
TROGLODYTES.
Trogloodytes niger, *Schinz.*
Simia Pan, *Donovan.*
Simia Satyrus, *Linnaeus.*
Simia pygmaca, *Schreber.*

Miscellaneous Notices.

Oared Shrew, (Sorex remifer.)—On the 17th. of October I shot one of these rare little animals in a run of spring water near Fakenham. On the first alarm he took to the water and swam some little distance, then dived to the bottom, seeming equally expert at travelling under the water as in it, till my desire to become more nearly acquainted with him prompted me, however much against my will, to discharge the fatal shot, which ended his career. I had on previous occasions seen two other individuals, which I believe belonged to this species.—T. SOUTHWELL, Fakenham, November 17th., 1855.

An Extraordinary Hawk.—The following account is one which I have copied from the Dunstable Chronicle of this month:—Mr. W. Jardine, of that town, has for some time been in possession of a Hawk. A few months ago she laid two eggs, soon after which she sat upon them. Her own eggs were subsequently removed, and two Guinea-fowls' eggs placed in her nest. The Hawk sat upon them the usual time, when, to the surprise of all, two fine chickens were hatched, with which their step-mother appeared highly delighted, and over which she has continued to watch with all the tenderness of a natural parent: the only thing at which she appeared uneasy, and evidently shewed surprise, was the fact of her young picking up the moment they were hatched, and many were the efforts which she made to induce them to offer their bills, that she might cram in pieces of raw meat.—T. CANE, Manchester Street, Luton, Beds.

Occurrence of the Rose-Coloured Pastor.—Last August I had a Rose-Coloured Pastor brought me that was shot in this neighbourhood. It was a young bird of this year.—Idem.

Green Sandpiper.—I had a very good specimen of the Green Sandpiper sent me to preserve about the same time.—Idem.

Red Admirals.—A correspondent in "The Naturalist" last month stated that Red Admirals were very scarce in his district, (Wells;) now in the neighbourhood of Luton they have been more plentiful than usual. A friend of mine captured eight one afternoon, and I have caught several myself.—Idem.

Curious Hatch of a Hen.—A Hen, belonging to a person of this town, a short time, out of a sitting of thirteen eggs, hatched fourteen chickens. The double egg was not quite broken through, but very thin and cracked. The birds were fully formed, but had evidently exhausted all the nutrition in the egg, and had died in consequence.—FREDERICK M. BURTON, Uppingham, October 10th., 1855.

Rose-Coloured Pastor, (*Pastor roseus*.)—A specimen of the Rose-Coloured Pastor was brought to me on the 12th. of August. It was shot the same day near to Middlesbro'.—THOMAS BEDLINGTON, Commercial Street, Middlesbro', October 5th., 1855.

Mountain Finch, (*Fringilla montifringilla*.)—Three specimens of the Mountain Finch were brought to me this morning in a very exhausted state; they were captured on board of a ship last night as she was taking the Tees.—Idem.

Long-tailed Tits, (*Parus caudatus*.)—During the last severe winter I saw nine Long-tailed Tits flying through the streets of Middlesbro'. I noticed either the same birds or others of the species five successive days. They flew very low, and seemed to be suffering from the severity of the weather. I only know of another instance of those birds approaching towns. I also saw about the same time five Gold-crests, (*Regulus cristatus*.) in a ship yard. I captured two with my hands, but they died the same day.—Idem.

Partridges.—I know of more than a dozen instances of coveys of Partridges alighting in the streets of Middlesbro'; generally all of them are captured as they run into any place to hide. Last year I saw sixteen Partridges drop into the Tees, as they were attempting to fly across: they were all drowned—the wind was blowing strongly at the time.—Idem.

Rock Thrush, (*Turdus saxtilis*.)—In June, 1852, I saw a bird in the neighbourhood of Robin Hood's Bay that I was not at all acquainted with. I followed it about two miles, and often got within a dozen yards of it by creeping behind the hedges. In its movements it was very like a Thrush, but it was rather smaller in size. I had no gun with me, or I could very easily have shot it. The bird got shy at last, I having followed it up very closely. It finally disappeared in a plantation. The bird was the Rock Thrush. I was able to identify the species in a moment after seeing the coloured figure in Morris's "British Birds."—Idem.

Ring Ouzel, (*Turdus torquatus*.)—I have found the nest of the Ring Ouzel four different times in the neighbourhood of Robin Hood's Bay.—Idem.

Notes on Fish and Wild-fowl. During the last mild winter some extraordinary draughts of Fish have been taken in the River Idle, at Misson, but the arrival of wild-fowl has been unusually small, scarcely indeed affording remuneration for the time and trouble spent in watching for these welcome visitors. Hence the occasions of "fleeting" have been few and far between. They generally make their appearance about dusk in the evening in quest of food. The distance which some of these strangers will travel in the course of a short time, is almost incredible to those who are ignorant of their habits. It is a well-ascertained fact that the Eider Duck can fly

ninety miles an hour. Many a fine Mallard can accomplish quite as much in the same space of time; so that, with suitable weather, their appearance is so sudden, and seemingly unlikely, as to baffle all calculation, except to the "old hand." Several of the various species—Wigeon, Teal, Duck, and Goose, are frequently shot on the waters of the Idle, and upon the adjoining lands. The streams, indeed, may be said to afford a livelihood to some, as they are a source of gratifying diversion to others, especially when the weather is of such a character as to induce these migratory visitors to shift their quarters, to obtain a supply of food suitable to their habits.—JOHN DIXON, Leeds, November, 1854.

The London Entomologists will hold their first Meeting the first Wednesday in the month throughout the year, commencing in February, 1856. This Society being formed for the benefit of the Members and Science, the funds will be devoted to the awarding of *Prizes* to those members who supply the Society with the greatest amount of information respecting the precise localities and number of Insects, in lieu of the plan generally adopted of devoting the funds to purchasing Cabinets, etc. Subscription Yearly, 10s. 6d.; Entrance Fee, 10s. 6d.

All Communications to be addressed to the Honorary Secretary, JAMES GARDNER, 52, High Holborn, London.

TO THE SUBSCRIBERS AND READERS OF "THE NATURALIST."

LADIES AND GENTLEMEN,

It is with sincere regret that, after being connected with "The Naturalist" for five years, I find myself obliged to transfer the agreeable task of editing it to other hands: it is unnecessary that I should trouble you with these: and my object in penning these few lines is, in the first place, to return you, each and all, my heart-felt thanks for the kind and friendly feeling which has always met my endeavours to cater for your intellectual benefit. I trust that the objects which led to the production of "The Naturalist," have been to a great extent realized; namely, the supplying of the poor Naturalist with a cheap and (by him) readable magazine, in his favourite study. Such has always been my aim, and if some of my more educated readers have occasionally wished for more *scientific* matter, I trust the above object may excuse the apparent want. I can speak positively as to the fact of many mechanics and working men having been led by the perusal of "The Naturalist," to a most creditable improvement of their intellectual powers, and consequently of their advancement in the study of Natural History.

I have always had the sincerest pleasure in aiding such correspondents by advice in private letters, and look back with very great gratification to this part of my pleasing labours. I can only hope that the same measure of kindly feeling which I have experienced, may be extended to my brother, the Rev. F. O. Morris, who in future will edit "The Naturalist;" I am sure that he will do his best to meet the requirements of the subscribers.

I will only farther add, that I most sincerely and heartily wish you each and all a happy New Year, and be assured that, although now ceasing my official connection with you, I shall always feel the liveliest satisfaction in the well-being of "The Naturalist."

I remain, Ladies and Gentlemen,

Yours most Faithfully,

BEVERLEY R. MORRIS.

The Retrospect.

Dr. Hobson asks in the last number of "The Naturalist," how the dentated process on the bill of the Hawk recently figured is to be accounted for, if it be supposed to be merely a variety of the Sparrow-Hawk? The answer is as follows:—The birds of the Hawk kind are divided into two principal classes—the noble and the ignoble. The former are subdivided into two, one the most noble, the other the noble. To the most noble belong the Merlin, the Hobby, and the Peregrine. To the noble the Sparrow-Hawk, our only British example. To the ignoble, the Buzzards, the Harriers, and the Eagles. In the most noble the bill is deeply indented; in the noble less so; in the ignoble it is almost wanting, a slight festoon alone indicating its place. In the specimen in question, if the dentate process is more developed than in the Sparrow-Hawk, it may be accounted for on the supposition I expressed that the bird might be a hybrid between that species and one of the true Falcons. The specimen is certainly a very curious one, and I would desire not to be thought to claim for my opinion anything more than it is worth. The foot is my guide;—Cinderella was traced by her slipper. "Ex pede Herculem."—F. O. MORRIS, Great Northern Hotel, London, November 5th., 1855.

Moth Mixture.—I have no particular quantity of each liquid that I mix up, but say a pound of sugar to about a quart of beer, with sufficient rum to make it enticing, say five or six table-spoonfuls. Rum I consider indispensable; 1st., the scent attracts the flies; 2nd., its intoxicating quality stupifies them, and makes them easier to take with chloroform; 3rd., it is very attractive from its sweetness. Now this quantity will not be sufficient to last many nights, if your trees have not been previously anointed; but

when the tree is once well saturated, a very little to renew it will suffice; but of this more hereafter. Sugar is decidedly better than treacle, and beer superior to water. It is certainly preferable to boil it, but I do not adopt this plan, as it wastes the liquor, and it answers well without it; but sticks better to the trees if it is.

Quantity on each tree.—With regard to the quantity on each tree, I am quite sure your friend Mr. R. does not anoint his trees sufficiently. One tree well soaked is worth a hundred with only a little dab on each; for that reason always stick to the same trees. I have tried both plans, and I now only sugar two trees; they are near together, close to my house, in my garden. This saves infinite trouble if nothing else. I put the mixture all round the tree, from six feet high quite down to the root of the tree, and there frequently take the best flies. In addition to this, if a fly, (which it frequently does,) at the approach of the bottle suddenly drops to the ground, you are nearly sure to find him in an hour's time feeding near the root of the tree; if no bait had been there he might have taken wing, and having been once disturbed, made off for good.

I have tried more than once trees at a distance from home, but never succeeded so well as I did upon my old trees in the garden. The sense of smell is great in Moths, and when once the air is impregnated, they may be enticed, I am sure, from great distances, from the quantity of flies I have found on a single tree. I had forty-five one night in the summer, and nearly as many only a few nights ago; among which were *Exoleta*, *Suffusa*, *Meticulosa*, *Oxyanthæ*, *C-Nigrum*, *Satellitæ*, and many specimens of *Pistacina*, etc.

Situation for Sugaring.—Though I have taken flies on all, the stem of a tree is decidedly better than a rail or piece of board fixed in the hedge, which I have tried; 1st., there is always a side of a tree sheltered from the wind; 2nd., it is easier to capture flies upon.

Best nights.—The best night of all is a damp dull one; all the better if it rains, and I do not care how hard, provided the sugar is not washed off. Wind too is all in favour of the entomologist, one side of the tree at least will be sheltered. A moon-light night is bad. A very frosty one will be probably a failure altogether, if clear and bright. In fact the finer the night the worse chance.

I am afraid these few remarks will not be of much use to any one, but at all events, if any of your readers has not already done so, let him try a wet night. A tree once well soaked, will last two or three nights, and require but very little of the mixture to renew its enticing qualities in future.

Atalanta has been very common in this neighbourhood this year, but I have not seen *Cardui*.—R. P. ALINGTON, October 26th., 1855.



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NOTICES TO CORRESPONDENTS.

Communications have been received from DR. HOBSON;—J. M'INTOSH, Esq.
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CLAPHAM, Esq.;—J. GATCOMBE, Esq.;—MR. T. EDWARD (two);—J. S. WALKER,
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E. K. B.;—JOHN DUTTON, Esq.;—TAXUS;—MR. RICHARD BROOK.

ERRATUM.—January No., page 22, line 26, for "these," read "my reasons for taking this step."

*Communications, Drawings, Advertisements, etc., to be addressed to the Rev.
F. O. MORRIS, Nunburnholme Rectory, Hayton, York;—Books for Review
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Advertisements to be sent not later than the 15th. of the Month.

GEOLOGICAL EXCURSION.

BY E. W.

(Continued from page 6.)

WE were up betimes the next morning to ascend Inglebro. We had over night a vague idea of ascending to see the sun rise, but in these long days of July, it is of no use trying to anticipate that luminary, he rose in red glory before we had been half an hour on our way; the ascent is of course long—five miles continually up hill will always be a stiff walk, but from Clapham it is very easy—a lady of our party managed it with very little fatigue; the ascent is over dry moors, with three successive steep steps, and as many broad platforms. When the first step was surmounted, we stood on the edge of the Lower Scar Limestone; the mass of Inglebro stood in front of us, a broad moor rose gradually to the foot of the next step, which contained the Yoredale Series, and the Upper Scar Limestone, both very thin; then came a second long platform, the south end of which rose a little, forming a hill called Little Inglebro.

On the north end stood the oblong mound of Millstone Grit, which formed the highest summit. On the north and east sides the descent is abrupt to the Lower Limestone platform. On the west a thin belt of the middle platform divides the descent. On the south, which is the accessible side, the ascent is made from the summit of little Inglebro; the edges all round the top are broken into cliffs, and enormous piles of worn rocks lie on the lower and middle platforms, tumbled from the rugged sides of the exposed summit, and on the two deep sides streaking the descent with streams of stones. The top is oblong, about a mile in circumference, very level and very dry; it is everywhere guarded at its edge by a rough stone dyke of great thickness, the remains of a fortified camp held by some of our oppressed or oppressing ancestors.

The view is very extensive—to the north stretch the hills of Teesdale, Swaledale, and Wensleydale, in confused groups. Whernside just opposite shuts out the view to the north-west. A peep up the valley of the Lune makes the gazer fancy the sea is there, (the vista stretches out as far,) and this is really the case, if the right kind of day can be chosen, (an evening before rain.) To the west the view is closed by Bolland Knots, and the numerous wild swells which form Bolland Forest. To the south the eye ranges over the beautiful valley of Craven, crossed far away by Pendle Hill. To the south-west rise range beyond range the Fells which hide in their deep valleys the head waters of the Aire, the Wharfe, and the Nid. To the east the beautiful mass of Pennyghent springs up from the valley at our feet; and to the north-west the view is closed by Carn

Dod, and the hills about Seamer Water. Below us the valley of Chapel-le-dale cuts so deep into the roots of the hill, that its bottom is quite hidden. To the south lay the beautiful valleys of Clapham and Austwick, ending in deep ravines, which penetrate far into the hill; and to the east stretches the desolate-looking trough along which flows the infant Ribble.

We descended on the south-east where the ground falls steeply from the summit to the Lower Limestone, which here forms a depression between Inglebro and Meughten Fells—hence it is not so dry as these moors usually are; the stream which falls into Gaping Gyll hole, (formerly described,) collects the water from these bogs. We descended into the beautiful woods which fill up the little valley of Clapham, by a deep fissure in the rocks, which at first close together so as only just to admit the passage of one person; they soon widen into the high cliffs which form the side of the valley.

Throughout the whole of this Lower Limestone district, the moors are perforated by deep cavernous holes, and gaping fissures, sometimes a few, sometimes many hundred feet in depth, formed after the manner of the Buttertubs; and in these sheltered spots must be sought that variety of ferns to the number of thirty species, which are said to grow on Inglebro; we were rather unsuccessful, for we gathered nothing of any consequence except *Chrysosplenium oppositifolium*.

We were about four hours ascending and descending, including all stoppages. On leaving Clapham our road lay along the valley to Austwick, where we turned eastward into a little cross valley watered by the Wharfe. On the south side of this valley, immediately under the broken cliffs, is found the northern line of dislocation of the Craven fault, where, though the Lower Limestone is still found at the summit, yet the level and dip is different from that of the grand Limestone scars of Meughten Fell, which form the north side of the valley, where it opens into Ribblesdale. These last-named scars are peculiarly magnificent, and afford fine sections of the contorted and vertical Silurian slates, with the limestone laying in flat tables on their worn and upturned edges.

The valley of the Ribble, where we crossed it at Helwith Bridge, is very desolate; but the view of Pennyghent, with its grand dome-shaped summit rising almost perpendicularly from the valley, and shewing its whole height from the basal slates to the Millstone Grit, would take away the murmur from the lip, even if the journey was fatiguing.

Crossing the valley we ascended the hill which forms its eastern side, (it is of the same slaty rock which is found in the whole district underlying the limestone,) then turning a little southward we crossed the wild moors which form the head of Airedale, and stretch away to Kettlewell dale. To the lover of such scenery, and whoever he is he will not care

for a rough hilly road, (the road is rough, and pursues a most devious course,) there is no district in England that would better repay a visit.

Pennyghent was soon shut out by the fidge of Fountain's Fell, which bounded the district on the north—on the south rose the Ryeloaf, and a kind of curiously shaped hills which lay above Settle: our route lay in a depression between these ranges. We crossed ridge after ridge in this valley, till at length the hills opened, and after surmounting a steeper ascent than usual, we looked down on the head of Airedale. To the left stretched a long line of magnificent craggy cliffs, white almost as chalk; their base was washed by the calm dark waters of Malham mere, which lay in a hollow in the centre of the rocky plain; some fine larch woods planted at their foot oft relieved and heightened the whiteness of the cliffs. But except these trees and a fringe of reeds round the lake, no vegetation higher than the grass could be noticed; to the south the plain is cut up into long lines of low wall-like cliffs, which stretch for miles across it, and descend step after step, till over the verge far down, a few thick woods and glimpses of rich meadows shewed that the beautiful valley of the Aire was below us. The road which twisted down amongst the ruined rocks was execrable; and we were not sorry to turn out of it on to a steep grassy slope, which descended to the foot of Malham Cove, formed by gigantic precipices slightly concave; from the case of which rises the infant Aire fed from the lake above. It is a full clear brook where it rises from under the rock so gently, that but for the quick stream which slips away, and a few bends in the water where it swells up, no one could tell that it was so constantly and strongly flowing: the water is so cold that it benumbs the hand if kept in it for a few moments. At the source every stone is crowded with a beautiful little mollusk. We gathered here the fine blue Jacob's Ladder, (*Pollemonium cærulea*), a rare plant in England.

Leaving the Cove, and skirting the high precipices which mark the line of the Craven Fault, about a mile further east we crossed a little brook, and ascending its course we soon stood in a gigantic pistern of rock. The passage became still narrower, till turning a corner the beautiful burn of Girsdale Scar fretted and tumbled down the rocks in front of us. A gigantic screen of rock must have formerly closed this fissure, behind which the little stream had accumulated into a lake, till its water flowed over the edge of the cliff, or down a now dry ravine on one side. The barrier has been forced, and now the brook runs through a circular hole which it has worn in the rocky wall. It reaches the bottom in two leaps; in the first the stream passes over the edge of the circular cavity, down a little channel which it has worn in the face of the rock into a small basin, full of stones, round which it foams and dashes to the second leap, where, as

it rushes over the edge, it is stopped by a projecting rock; on whose surface it has deposited a magnificent fringed stalactile cushion, which splits up the water, throwing it on sides in glancing lines of foam; and in rainy weather forming a fine fountain-like shoot. This is the finest waterfall in these dales, and the gloomy fissure which it has formed is very grand. We gathered the Lesser Rue Weed, (*Thalictrum minus*), which grows in great profusion in the moist fissures of the rocks.

Leaving Girsdale we rode down the valley of the Aire to Kirkly Malham, then ascended the hills on the Moor road to Settle, (let no admirer of the beautiful be tempted by the smoothness of the way to go to Settle by the lower road.) When we reached the highest point of the moor we found that we were crossing the last spur of the mountains, as they sunk into the valley of Craven. The sun was setting behind a dark cloud, the edges of which were fringed with golden light: a few bright red islands of cloud floated in a waste of pale green weird-looking sky, which filled up the horizon, fading as the eye followed it into the deep blue of the zenith: the rays which streamed from behind the dark cloud lightened up the tops with a deep red glow, and threw into a deep purple shadow the base of the beautiful fells which rise round Bolton and the Wharfe, and stretch in long lines athwart the whole of the eastern horizon. They threw up in strong relief the grand slope of Pendle Hill, which bounded the view and the valley to the south, and shed a golden mist on the three summits which form the highest point of Bolland Forest, throwing into shade the deep valleys which indent the whole district; while a gush of light barred by lines of purple shadow filled the valley at our feet, and slept on the still pools which glanced like burnished brass.

To stand where we stood, on the wide moors with the dark hills rising ridge beyond ridge behind us and before us, this lovely scene with the fresh breeze of evening sighing past us—no sound breaking the stillness but the cry of the startled lapwing, and the gentle monotonous drone of a little brooklet, as it fell drowsily from rock to rock, watching the changing light as it stole up the hill sides and died away on their summits, leaving one after another cold and dark, and making the rest more brilliant, could not but cause the gazer to feel how lavish Nature is of her beauties, to any one who will but seek her in her wild solitudes.

Descending from the moors, we found ourselves in Settle almost before we could see the town, so closely does it nestle itself under a huge rock: the Ribble, as it emerges from its narrow dale into the open valley flows round it.

At Giggleswick, near Settle, at the point where the Limestone abuts upon the Millstone Grit, which is here thrown down some hundred feet in the line of southern dislocation connected with the Craven Fault are Gig-

gleswick Scars, which skirting the road from Settle to Clapham, have a wide celebrity, though they seemed to have no great pretensions to grandeur to us who had passed through the valleys to the north and east.

These Scars form the south-western side of a mass of Limestone, thrown down between the northern line of dislocation, which passes along the little valley of the Wharfe, the southern passing at their base.

At Settle we left the carriage which had brought us and our belongings over some of the roughest roads in the north: humble as it appeared, we were sorry to exchange it for a grander one. Our readers will perhaps smile at our regret, but if they ever take such a ramble, and procure a butcher's spring-cart, they will know the comfort of it too well to laugh at it; it will enable the tourist to take a little extra luggage, (always a desideratum;) it will give him liberty to ride or walk, and will follow him anywhere—almost up a straight hill side, and will save him the trouble, (if he is either geologist or botanist,) of carrying his collections, and they are sometimes of no inconsiderable weight, through a long day's journey. The only (and perhaps they were but fancied,) grievances seemed to be, that some of our party noticed where we stopped, that the natives read on our cart, 'James Smith, Butcher, Leyburn,' and surveying us, seemed to speculate as to which was the butcher; and on inquiry for the best inn in the town, we had to be very particular, as a second or even third-rate one seemed to be reckoned fittest for people who travelled in a butcher's cart.

From Settle we crossed the valley over a cold bleak country, to the wooded knolls and rich meadows round Clitheroe: here the lowest beds of the mountain limestone are well developed, dipping at a high angle, and much contorted: many of these beds are very fossiliferous, and contain multitudes of rare crenoids. Mr. Parker, a clever working geologist, one of the martyrs of science, has a very fine collection of the characteristic fossils of the district.

From Clitheroe to Whitewell is nine miles, through rather wild park-like scenery; we were still on the Limestone, the quarries of which at Whitewell are full of Encrinite stems, heads, and broken arms, and when the stone is found weather-worn in the dry dykes, the blocks are quite rough and white with these fossils.

About Whitewell the scenery is very fine; the Hodder is a full, swift, pale brown mountain river, abounding with fish; the banks are wooded from the water's edge to the hill tops; the woods are full of ferns, growing most luxuriantly, but we found no rare species. The flora of the district will well repay a careful search; and a very comfortable inn is beautifully situated in a bend of the river.

From Whitewell we left by the road which ascends the valley by the

side of the Hodder. It is a wild dale, where the rounded hills are higher, but in their shape have very much of the character of chalk hills intersecting each other—one hill running between two others. As we ascended the scenery became almost savage, and the valley narrowed till we began to mount the last steep ascent towards the summit level, when the hills closed in still more, rising on each side to a great height. The strip of a road and a little tumbling stream nearly filled up the bottom. Further on the pass became so narrow that the road and the stream encroached on each other, and we were in the Trough of Bolland. The hills on each side of this ravine are Millstone Grit, dipping at a high angle and much twisted: the whole of this district has been very much dislocated.

Leaving the summit of the pass, a ride of a few miles across open moors brought us into Wyersdale, where on the road-side we gathered more rare ferns than we had seen throughout our excursion. Another hour over a desolate and uninteresting country, brought us in sight of the Red Sandstone hills that rise above Lancaster, where we passed from the breezy moors into a close railway carriage, and felt how hot and unhealthy civilization was.

Pichmond. Yorkshire, Oct. 4th., 1855.

INJURIOUS INSECTS.

THE COMMON WASP, (*VESPA VULGARIS*.)

BY J. M'INTOSH, ESQ.

(Continued from page 141, vol. v.)

THE building materials of the Common Wasp, (*Vespa vulgaris*.) were long a matter of conjecture to the naturalist, as well as of attraction and attention to others. The indefatigable Reaumur informs us that he endeavoured, for twenty years, without success, to find out the secret; he however was at last rewarded for his perseverance. Wasps, like all other insects which live in societies, are subjected to a well-arranged government, the laws of which remain inviolable, or they could never construct a dwelling so capacious and well arranged; a fabric which all the ingenuity of man can never imitate nor resemble. The sagacity also of selecting a proper situation for their citadel, is no less singular than the symmetry and elegance of the building itself, which is composed of small bundles of ligneous fibres, moistened before being used with a glutinous liquid, which causes them to adhere together. These bundles of fibres are, after being carried to the citadel, formed into a leaf, resembling *papier maché*, which the insect does by walking backwards and spreading it out with her mandibles, tongue, and feet, till it is almost as thin as tissue-paper.

Contrary to the buildings of man, they begin by forming the ceiling, or roof, working downwards, and, notwithstanding the workmen employed, there is no confusion or tumult, each has its duty to perform, which it executes with the utmost regularity, and having deposited its load in the proper position, it again sets off for fresh materials, until the whole is completed. One sheet of such thin material as this the Wasp is well aware is not sufficient to prevent the earth from falling down into the nest, accordingly she is not satisfied with her work until she has spread fifteen or sixteen layers, one above another: these layers are not placed, or glued together like a piece of pasteboard, but with small intervals between.

I need hardly state that everybody has seen Wasps alight on the sashes or wood-work of their windows, to the great terror of the fair sex, and gnaw off the woody fibre with her mandibles; this, then, is the material which she employs in constructing her dwelling. In fact, Wasps have been paper-makers of the most perfect and intelligent kind from the creation, while man was arriving by slow degrees at the art of fabricating this valuable material; for some nations carved their records on tablets of stone, wood, and brass; others employed the inner bark of trees, and the skins of animals. Even the early attempts of the Egyptians at paper-making were very rude, and the substance produced was almost useless; yet the Wasp was manufacturing the very material before their eyes, and by very much the same process as man now does, with the aid of his complicated machinery and chemistry. Still the Wasp employs the same instruments, and the same materials now as it did at the creation: her machinery is very simple, and never out of order. These weapons, or tools, are two strong saw-like mandibles, playing one against the other; and by means of which she excavates the subterraneous vault in which she constructs her dwelling, as well as for cutting up fruit and flesh—their food.

It is quite astonishing to see the space they hollow out in order to afford room for their nest; scarcely one issues from the ground without a load of earth or a small stone. When heavy, they drop their load near the entrance, which soon accumulates into a little heap; and which often leads to the discovery of the nest; however, when such accidents do not occur, the matter is moved to a considerable distance from the mouth of the vault, so as to be no inconvenience at a future period. Although the whole structure is built at the expense of so much labour and ingenuity, it is scarcely finished before winter sets in, when all perish, with the exception of a few benumbed females, who betake themselves to their solitary winter quarters, to appear again in spring to fill the land with pests.

November, 1855.

THE EFFECTS OF SPRING.

BY O. S. ROUND, ESQ.

It is curious to observe what a difference of manner the season of Spring communicates to the feathered tribes; the wildest become in comparison tame and domestic, the tamest even acquiring a particular softness of behaviour, which is observed in them at no other time. The well-known Sparrow, lean and watchful as he is in the keen windy winter weather, goes about on the house-tops and gutters with his wings drooping, and his voice, at other times harsh and sharp, becomes full and soft like a nestling's. The Missel Thrush even mixes with others of his kind in our shrubberies, and abates something of his shy demeanour. The Wood-Pigeon and Rock-Dove fly more slowly, and rising in an oblique direction shoot upon their wings in a manner quite unusual to them. Greenfinches fly about in the sunbeams, and flutter as if wounded; and so do Titlarks when sitting and put off their nests; but this is for the purpose of decoying away the intruder, and preventing the discovery of their retreat, and will generally effect the object.

The Redstart, during the nesting season, has so much the note of the Willow Wren, that until seen you would suppose it that bird; but a good naturalist will discover the difference by the greater activity of his motions. All the Titmice have peculiar notes during the early seasons of the year; some twitter almost like a Bank Martin, others with a sound exactly like the whetting of a saw; though in the Great *Parus* some make a sibilous note like the Golden-crowned Wren, and others chatter like a Blackcap or Whitethroat; our summer birds, of course, keep one note, (that is the old ones) whilst with us, but I cannot doubt that when in winter quarters, or rather out of the nesting-time, they abate much of their song, as our own natives are found to do; for I consider those kept in confinement through our winter, as no rule, and have constantly observed that most music is heard at the commencement of nesting than at a later period; thus, April, if the weather is fine, is the most melodious month with our own birds, and perhaps June the fullest of summer songsters' strains; then as the summer advances, and gets towards harvest, a sort of silence prevails, for so many birds are engaged in sitting, that although it is a favourite expression with writers on Natural History to say that the cock bird charms his mate while sitting with his song, it is by no means correct, and it is certain that very little music is heard at this time.

The Cuckoo, although its song is limited to two notes, makes a lively addition to the general chorus, but in July she leaves us, and as August and September pass away, so the other summer visitants intermit their song, and finally depart also, so that October finds us dull enough. Our

own kinds indeed resume their song at different periods, and amongst these the Thrush and Redbreast hold the first place, for the Skylark, our finest songster, scarcely sings at mid-day, except in spring. Perhaps all this is as it should be, for the songs of all our summer visitants, enlivening and heartful as they are, are vastly enhanced by the scene of which they form a part, and might not perhaps assimilate so well with bare fields and leafless trees, whilst the solitary note of the Redbreast and Thrush are first apparent enough to enliven without making the prospects appear more dreary.

DOWN THE RIVER.

BY J. S. WALKER, ESQ.

(Continued from page 275, vol. v.)

AT length we persuade our friends to resume their labours at the oar, and glide gently down the stream; but our progress is not rapid, for now the ladies insist upon stopping to gather wild flowers, which grow in thick profusion on the banks, and weave garlands to ornament the children's broad hats, who clap their tiny hands in admiration of the brave colours.

As we round a projecting bank, we come suddenly upon a family of Black Swans; the parent birds wing their way at our approach, leaving their five half-grown young ones to the tender mercies of our guides. Away we start in pursuit, and despite the diving of the Cygnets, we capture three, which are reserved for pets. They were easily tamed, and in a few days would accompany the Tame Geese on their daily visits to the ponds, and with them would punctually return at nightfall. The facility with which nearly all the animals and birds of Australia are domesticated, is one of the strange peculiarities of this strange country. A small species of Kangaroo about the size of a rabbit, and which is inelegantly called by the Settlers, 'The Kangaroo Rat' is so soon accustomed to the loss of its freedom, that if set at liberty only a few days after being caught, it will follow its captor quietly home.

Here a huge forest tree had fallen into the water, and on its dead branches which protruded from the stream, a score of Pelicans were perched, their large bills resting placidly upon their white breasts; doubtless dreaming of the shoals of fat mullet they intend to devour when night comes on; but they are too wary to permit our approach. Pyke and Pluck witness their departure without betraying any anxiety, for the flesh is too rank and tough even for the stomach of a blackfellow.

We see numbers of Cormorants, called by the blacks 'Fisherman Jack.' One of these is so gorged with fish that it is actually unable to fly; and

a spear from Pyke transfixes him. We ask if that is daintier fare than the Pelican, at which he laughs and says, "Berry good, suppose hungry." However, as the appetite of an Aboriginal is almost without limit, Fisherman Jack is stowed away with the rest of the game, in case of the contingency before alluded to.

Sometimes we startle a bevy of Quail, which fly away swiftly, with the loud 'whir-r-r' peculiar to this family of birds. They are very numerous at certain seasons of the year, for, although a considerable number remain all the year round, and breed in the long grass of the flats, yet their numbers are prodigiously increased in the autumn. This partial migration of birds is a very interesting study, and is, I think, common to all the Australian birds. Oh! for an Antipodean Gilbert White, to record simply and truthfully the arrival and departure of our feathered friends; to tell us "by what nice instinct led," a portion, and which portion, of the same family remain the whole year round, and the rest take their departure to unknown regions.

There were large flocks of little Wax-bills feeding on the grass, and the blacks threw sticks amongst them, and killed several for the children. The tribe of *Fringillidæ* in Australia is by no means numerous; in the district I am writing about I never saw but two species—the one above described, which is common enough, and which in autumn frequents the farm-yards in flocks of several hundreds, where they are caught by the children in great numbers; and a larger species, of which I have occasionally met with a few pairs, and which are more common about Sydney than any other part of the colony. Besides these, I have seen preserved in the museum in Sydney several specimens of exquisite plumage, some of which were procured by that adventurous traveller, Dr. Leichardt, during his long and arduous journey to the north coast of Australia. Alas! poor Leichardt! he and his brave companions have doubtless fallen victims to their adventurous spirit, and have perished in the wild bush of Australia. No tidings have been heard of them for several years, and it is presumed they have fallen victims to the hostility of some of the numerous tribes of Aborigines.

But to resume. At last we hear the distant roar of the ocean, and approach the end of our journey. The river has become a broad estuary, and is nearly a mile across. The sea-breeze has set in strong, and it requires the utmost efforts of the blacks to force the boat against it; but after half an hour's vigorous pulling, we haul our boat on a sand spit, and land. There is but a narrow strip of sand, scarce twenty yards across, which separates us from the ocean. Beneath a mass of huge rocks, piled up in most fantastic shapes, at the very mouth of the river, we pitch our tent, and land our goods and chattels.

Pyke and Pluck, in whose minds the prevailing impression constantly exists of a deficiency in the larder, and which no amount of supply can remove, here desery another lot of Cygnets, and start by themselves in pursuit. They soon return with a brace, which present an odd appearance as they gibbet them on a dead bush; for, our friends having stopped a moment to light their pipes, had flung the birds upon a heap of burning twigs and leaves they had scraped together for the purpose, and the fire had blackened but only partially removed the feathers, causing the singular scarecrow look before alluded to.

But now a nobler quarry arrests our attention, for Pyke, who has ascended the steep rocks, not for the purpose of admiring the scenery, but to observe if haply any game be in view, now descends with eyes sparkling with animation, and tells us with great glee that he has discerned what he calls a *Tail*, asleep on the beech. "A *Tail*, Pyke?" we exclaim, "a tail of what?" At which question both the darkies almost go into fits with laughing; and Pluck, who prides himself upon speaking English with remarkable purity, proceeds hurriedly to explain to us that his friend, who found it a much easier matter to spear fish than pronounce the letter S, meant a *Seal*. So we arrange our plan of attack; but first I cut one of the leaden weights of the fishing-line into slugs, and put a charge of them into each of the barrels of the gun; the blacks arm themselves each with a sapling they have hastily cut with their tomahawks, leaving a portion of the root to form a knob at the end. Then taking advantage of a rough bank of sand between us and our intended victim, we steal cautiously up. The blackfellows are wild with delight, and as soon as we arrive at a spot marked by Pyke, I peep over the bank, and within eight or ten yards there lies a large hair seal. Notwithstanding my caution, the noise of my approach alarms our oily friend, for he turns his head quickly round, and I can see the play of his nostrils as he "scents the tainted gale." I think of Hector in the Antiquary, and his luckless adventure with the Phoca, but I have not long to wonder whether we shall be more successful, when the Seal plunges his awkward flappers into the sand, and begins to shuffle down towards the sea. With a loud yell the blacks rush at him; it had been previously arranged that Pyke was to lead the forlorn hope and strike the first blow. But the long teeth and ferocious appearance of the Seal intimidate the boastful darky, and he swerves aside. But almost at the same moment Pluck makes him bite the dust, (sand,) by a vigorous blow upon the point of the nose—the only vulnerable part, and as the wretched Phoca endeavours to recover himself—it feels to me like murder—I discharge both barrels into its head, from within six yards distance; then the sticks come into requisition and finish the work. Whercat Pyke bursts into an extemporaneous war-dance, and,

quite regardless of his cowardly retreat, claims the chief honour and glory of the capture. I leave the blacks to skin him at their leisure, and return to my friends.

Then we commence fishing, and in a few minutes have caught such a supply of Schnapper, Bream, and Flathead, as would satisfy even the voracious propensities of Messieurs Pyke and Pluck.

(To be continued.)

ARRIVAL OF THE HIRUNDINES, ETC., AT MINEHEAD, SOMERSET, IN 1855.

BY MAJOR GIFFORD.

Sand Martin, (*Hirundo riparia*), April 13th.—Swallow, (*Hirundo rustica*), April 18th.—Cuckoo, (*Cuculus canorus*), April 25th.—Swift, (*Cypselus apus*), May 3rd.

Time of departure in 1855:—The Swift left about the 13th. of August. On the 18th. saw six flying about in the evening, and one on the 28th. 22nd. of September, saw at least twenty Swallows. A newspaper account says they all disappeared from the neighbourhood of Sheffield on the 14th.; here they remained till the end of the month. The Martins left about the 8th. of October.

EXTRACTS FROM MY NOTE-BOOK.

APRIL 5th., 1855. The Willow in blossom: last year it came into bloom the latter end of February and beginning of March. My bees were hard at work on the 7th. of March last year, but up to this time, April 5th., they have not been able to collect any pollen.

April 6th. First Spring morning.

April 13th. A curious coincidence occurred to-day; I was observing to my daughter that the Swallow tribe would soon make their appearance, as the days were getting long, and the insects coming forth, when on looking out of the window, at that very moment, I saw four or five Sand Martins fly over the house to the westward; most probably to take up their summer quarters in the high cliffs about Lynmouth or Ilfracombe.

April 17th. Saw the New Moon, when only *one* day old.

May 4th. This morning, about 5 a.m., the hills were white with snow.

May 9th. Pear tree in blossom in the garden opposite; generally, the same tree blossoms in the beginning of March.

June 28th. Wheat in ear.

November 10th. My bees at work.

GEO: S. J. GIFFORD.

Minehead, Somersetshire, November 9th., 1855.

NEW YORKSHIRE STATIONS FOR RARE MOSSES.

BY JOHN H. DAVIES, ESQ.

THE following is a list of a few species of Mosses not recorded by my friends Messrs. Baker and Nowell, in the "Supplement to the Flora of Yorkshire."

Phascum serratum, SHREB.—Bank in Sowerby Flats, near Thirsk, J. G. Baker. In a quarry behind the Thirsk Church.

Anacalypta lanceolata, ROHL.—Red Sandstone quarry, Leckby, near Topcliffe.

Tortula omealis, BRID., var. *B. flaccida*, WILS.—In a quarry behind the Thirsk Church; Thomas Pearson, and J. H. D.

Orthotrichum pumilum, DICKS.—On an Elm tree on the banks of the Codbeck, along Sowerby Ings, Thirsk; J. G. B.

Orthotrichum Bruchii, BRID.—Not unfrequent in the dales about Boltby, near Thirsk. The species recorded in the "Supplement" as *O. Drummondii*, is this moss.

Bryum inclinatum, B. and S.—On a decayed stump at Carlton Brick-ponds, near Thirsk.

Minium cuspidatum, HEDW.—Banks of the stream below Bagby, near Thirsk.

Physcomitrium ericetorum, DE NOT.—Banks of Gormire, near Thirsk; J. G. B., and J. J. Packer.

Bartramia calcarea, B. and S.—In fruit on the banks of a stream above Kepwick Nab, near Thirsk, plentiful; J. G. B. With barren flowers on the banks of a small stream at the head of Yowlas Dale, near Thirsk.

Bartramia arcuata, BRID.—Growing intermixed with the preceding species and *B. fontana*, at Yowlas Dale.

Splachnum sphaericum, HEDW.—With immature capsules on the moor above Kirby Knowle, Thirsk, June, 1855.

Fissidens viridulus, WAHL.—Stones on the banks of the Rye, Laskil, in Bilsdale.

Antitrichia curtipendula, BRID.—Rocks on the summit of Hood Hill, near Thirsk; J. G. B.

Cylindrothecium Montagnei, B. and S.—Shady banks, Malham moor; John Nowell.

Leskea Sprucei, BRUCH.—Shady rocks, Gordale; John Nowell.

Leskea polyantha, HEDW.—Hawthorn on the road-side between Thirsk and Topcliffe.

Hypnum irriguum, HOOK. and WILS.—On Alder stumps on the banks of a stagnant pond in the field near the Holmes, Thirsk.

Hypnum radicale, P. BEAUV.—Intermixed with the preceding species.

Hypnum polygamum, BRÖL., EUR.—Marshy ground in the Sowerby flats, near Thirsk.

Hypnum tramulosum, SWARTZ.—Rocks on Holwick Scar, Teesdale; Dr. Black.

Hypnum Shreberi, WILLD.—In fruit on the Hambleton hills near Boltby, Thirsk.

Hypnum pulchellum, DICKS.—On stones, Dalesgate, near Todmorden; John Nowell.

Cryphaea peteromalla, BRID.—Hawthorn on the road-side, between Thirsk and Topcliffe.

Thirsk, January 9th., 1856.

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 19.)

SIMIA.

- Simia Satyrus*, Lat. *S. Satyrus*, Linn.
S. troglodytes, Blum. *S. Abellii*,
 Clarke. *S. Wallichii*, Morio, Owen.
S. Crossi. *Pongo Wurmbii*, Audeb.
Pithecus Satyrus, Lat.
Simia bicolor. *Pithecus bicolor*, Isid
 Geoff, Schinz.
Simia Lar., Linn. *S. longimana*,
 Schreb. *Pithecus Lar.*, Desmar.

HYLOBATES.

- Hylobates syndactylus*, F. Cuv. *Simia*
syndactyla, Raff.
Hylobates albimanus, Schinz. *Simia*
Lar., Linn. *S. longimanus*, Schreb.
Fisch. *Pithecus Lar.*, Desm.
Hylobates leucogenis, Schinz. *H. leu-*
cogenis, Ogilby.
Hylobates Hoolook, Schinz. *Simia*
Hoolook, Harlan.
Hylobates variegatus, Schinz. *H. agilis*,
 Cuv. *H. Rafflesii*, Geoff. *H. Ounko*,
 Less. *Simia Lar. minor*, Griffith.
S. variegata, Fisch. *Pithecus varie-*
gatus, Geoff.
Hylobates leuciscus, Schinz. *Pithecus*
leuciscus, Geoff. *P. cinereus*, Lat.
Simia leucisca, Schreb. *S. Moloch*,
 Audeb. *Ungla puti*, Raff.

Hylobates concolor, Har.

Hylobates coromandelensis, Schinz.

Hylobates entelloides, Schinz, Isid
 Geoff.

COLOBUS.

- Colobus Guereza*, Schinz.
Colobus polyeomos, Schinz. *Simia*
polyeomos, Schreb. *S. comata*,
 Shaw. *Cercopithecus comosus*, Lat.
Ateles comatus, Geoff.
Colobus ursinus, Schinz. *C. polyco-*
mos, Ben.
Colobus Pennantii, Schinz.
Colobus satanas, Schinz, Wat.
Colobus leucomerus, Schinz, Ogyl.
Colobus verus, Schinz, Bullet.
Colobus fuliginosus, Schinz, Ogyl. *C.*
ferrugineus, Kuhl. *C. Temminkii*,
 Kuhl.
Colobus vellerosus, Schinz. *Semno-*
pithecus vellerosus, Geoff.
Colobus bicolor, Schinz. *Semnopithecus*
bicolor, Wesmähl.
 SEMNOPITHECUS.
Semnopithecus melalophos, F. Cuv.,
 Geoff, Fisch, Wag. *S. melanophos*,
 Desmar. *Simia melalophos*, Raff.
Semnopithecus rubicundus, Schinz.

- Semnopithecus flavimanus*, *Schinz, Les. Mull.*
Semnopithecus chrysomelas, *Schinz, Mull.*
Semnopithecus comatus, *Schinz. S. mitratus, Mull. Presbytis mitrata, Eschholz. Simia comata, Fisch.*
Semnopithecus frontatus, *Schinz, Mull.*
Semnopithecus maurus, *Schinz, Fisch. S. Pyrrhus, Horsf. Cercopithecus maurus, Geoff. Simia maura, Schreb.*
Semnopithecus cristatus, *Schinz. S. pruinus, Desm. S. femoralis, Martin.*
Semnopithecus sumatranus, *Schinz, Mull. S. femoralis, Martin.*
Semnopithecus Siamensis, *Schinz, Mul.*
Semnopithecus leucomystax, *Schinz, Mull.*
Semnopithecus leucoprymnus, *Schinz. Cercopithecus leucoprymnus, Otto. C. latibarbatus, Geoff. Simia dentata, Shaw. S. cephaloptera, Fisch.*
Semnopithecus jubatus, *Schinz, Wag.*
Semnopithecus cucullatus, *Schinz, Belan. Simia Johnii, Fisch.*
Semnopithecus albobularis, *Schinz, Sikes.*
Semnopithecus albo cinereus, *Schinz. S. obscurus, Reid, Martin. Simia albo cinerea, Fisch.*
Semnopithecus Entellus, *Dufresne.*
Semnopithecus Nemæus, *Schinz, Cuv. Simia Nemæus, Linn. Cercopithecus Nemæus, Des. Pygathrix nemæus, Geoff. Lasiopyga Nemæa, Illig.*
Semnopithecus nasicus, *Schinz. Simia nasica, Audeb. S. nasalis, Shaw. S. rostrata, Blumen. S. recurvus, Martin. Nasalis larvatus, Geoff. N. recurvus, Thier.*
Semnopithecus Dussumieri, *Schinz. Simia Johnii, Linn.*
Semnopithecus nobilis, *Schinz. Presbytis nobilis, Gray.*
Semnopithecus nigrimanus, *Isid Geoff.*

(To be continued.)

THREE DAYS IN CAERNARVONSHIRE.

BY J. H. DAVIES, ESQ.

A Paper read before the Thirsk Natural History Society.

WESTWARD ho! The light midsummer mists are gradually uprolling from the meadows, and the well-known mural embankment of the Hambleton hills in the dim grey light of the morning is clearly perceptible on the verge of the far horizon. The passengers have taken their seats, the doors of the carriages are closed, the time for starting has arrived, and the engine puffs, and pants, and snorts, as if it shared my impatience of delay.

Westward ho! We glide along across the fertile valley, past scattered homesteads and smiling villages, surrounded by meadows, newly shorn by the mower's scythe, and corn-fields, whose burdens of golden grain await the early advent of the sturdy reaper. The willow-margined Swale, turbid with recent rains, that have fallen amongst the mountains where it takes its birth is soon crossed, and the viaduct that spans the Yore, by the side of spire-crowned Ripon. We are leaving the New Red Sandstone, and

entering amongst the primary formations. These deep cuttings at Monckton Moor furnish us with a good section by the aid of which to study the permian deposits. On the north the lower parts of the valleys of the Nidd and Wharfe unfold a varied panorama. We plunge into the long dark tunnel that pierces the Brawtropic ridge, and emerges again on the edge of a land of many-windowed and tall-chimneyed factories. Kirkstall with its Abbey, Headingley with its Botanic Gardens, and at last the Aire is reached, and where streets are thickest, and the smoke is densest, we arrest our course at the far-famed metropolis of the woollen manufacture—Leeds.

Westward ho! Wortley, Churwell and Morley, Birstall, with its grim-looking shoddy mills, Dewsbury, Mirfield Junction, and Staleybridge. Another long dark tunnel, and we are through the Pennine ridge, and in the county of Lancaster. Ashton Mills Platting, and, last of all, Manchester the mighty. An interval of rest, and then again forward. Westward ho! Through a flat low-lying country, plentifully interspersed with bogs and pits, past Newton, and through a district well known by report, at least to the readers of the "Bryologia Britannica." Gradually a forest of masts dawns upon the sight, and we are landed before long in the heart of the second city of the empire.

After an unsuccessful search for the *Bryum cochlearifolium*, recently discovered by F. P. Marratt, Esq., at Wavertree, a fine morning found me on board the Bangor boat "Anglesea," in company with my esteemed relative Robert W. K. Long, of Egremont, and we were soon steaming down the river at a rapid rate. As we glided along, opposite to them, the "Red Noses" and sand-hills of New Brighton were gradually enveloped by a thick mist which effectually concealed them from view. We began to fear the weather would not prove propitious to our excursion, but before long were delighted to find the unpardonable symptoms vanish away, and to descry the massive bulk of the Great Ormeshead rising to view in the distance. Reaching Llandudno, we stayed for a short time to land passengers. As we entered the Menai we were regaled by an extemporaneous concert of vocally inclined *Laridæ*, collected together on the limestone cliffs, which rise abruptly from the sea. Steaming through the strait, we passed Beaumaris on the right, where the profuse growth of *Fucus serratus*, in the vicinity of the landing-stage attracted our especial attention. Proceeding a little further down, we landed on the Anglesea side, and after crossing that magnificent production of art, the suspension-bridge, took up our quarters, *pro tem*, at the George Hotel.

If the views respecting the influence of the subjacent rocks upon the distribution of species recently advanced by my valued friend John G. Baker, at the meeting of the British Association at Glasgow be correct, the muscology of the Silurian mountains of North Wales, should even at equal

elevations, differ conspicuously from that of the Oolite of Yorkshire. The former taken as a whole are "engeogenous," the latter typically "dysgeogenous," and I found, as indeed I was quite prepared to anticipate, from what I had previously read upon the subject, a great contrast to what I had been in the habit of seeing at home in the species that presented themselves to view, and their relative prominence and predominance. There is no department of science that I should like better to attempt to investigate than this question, but unfortunately data are at present too scanty to allow of satisfactory conclusions being drawn.

There is much beautiful scenery for the tourist to admire in the vicinity of Bangor. Several rare mosses have been gathered in this neighbourhood, amongst which I may mention *Hypnum elodes fluviatile*, and *irriguum*, and *Bryum obconicum*.

We left our Inn about six o'clock, intending to walk to Caernarvon that evening. On the walls along the road-side we collected a few specimens of *Ptychomitrium polyphyllum*, B. and S., (*Trichostomum*, *Schwaegr.*) and noticed it more or less all the way between Bangor and Pen y gŵryd. We were much struck with the great abundance and large size of *Clau-silia nigricans* and *Zonites rotundatus*, which were crawling about the stone-walls in all directions; and some of the larger *Helices*—*aspera*, *hybrida*, *nemoralis*, etc., here attain most unusual dimensions. About two miles from Bangor, we observed a single patch of that elegant and interesting moss *Bryum atropurpureum*, and, in close proximity to it, *B. cernuum*, and a small quantity of *Entosthodon Templetoni*, growing in the midst of a tuft of that species so well known on the continent under the name of "*La charbonniere*," *Funaria hygrometrica*.

In the neighbourhood of Caernarvon, the walls are covered with a thick vestiture of *Leskea sericea*, and *Hypnum serpens*. Doubtless other species occur, but the dusk precluded minute examination. We reached the ancient town about nine o'clock, and found comfortable quarters at an inn adjacent to the castle.

At an early hour next morning we turned out for the purpose of making acquaintance with the lions of the locality. The castle, historically celebrated as being the birth-place of the second Edward, of course claimed a fair share of our attention. At breakfast we set about inquiring the distances of our proposed route. The waiter gave us to understand, amongst other items of information, that Dolbadarn was ten miles distant, and that an omnibus, trustworthy and excellent in every respect, etc., etc., would leave the inn at ten o'clock; but we considered that on the whole we preferred a more unconfined, if lowlier, method of locomotion.

The road we followed was bounded on either side with stone walls, on which grew *Ceratodon purpureus*, (*Didymodon*, H. & T.,) *Racomitrium*

fasciculare and *lanuginosum*, *Hypnum uncinatum*, (then in perfect fruit,) and several commoner species. In the crevices those beautiful ferns, *Asplenium adiantum-nigrum* and *trichomanes*, luxuriate in profusion; and we also procured examples of a very robust form of *Hedwigia cileata*, (*Anutan-gium*, H. & T.) in a desirable state of fructification. As the stone walls gave place to shady banks, *Polytrichum piliferum* and *Pogonatum urnigerum* made their appearance, and where ground partook of a boggy character, *Polytrichum commune* and its ally *P. formosum* shewed themselves. On a low building in a small village, about half-way between Caernarvon and Llanberis, we collected a further supply of *Bryum cernuum*, but unfortunately the fruit was too mature to exhibit fully their distinctive characters. On the left-hand side of the road, a little further along, we had the pleasure of finding a small quantity of *Orthotrichum phyllanthum* with gemmiparous flowers. Walking along a short distance we were exceedingly gratified in procuring a few specimens of that peculiar and interesting species, *Diphyscium foliosum*.

At intervals pausing to watch the variations of the beautiful landscape, and staying to observe or collect the species which presented themselves to our notice, in due course we arrived at the little village of Cwm y glo, on the rocks opposite to which we found some beautiful specimens of *Bryum capillare*, with the foliage elegantly contorted, and the capsules presented a harmoniously blended combination of dark green and vermilion.

(To be continued.)

Miscellaneous Notices.

Domestic Cut.—Mrs. E.'s cat had a kitten, and nursed it until it was quite a large cat; after a time she had another brood of kittens, but Mrs. E. had them all drowned; then her first kitten began to suck her again, and she treated it quite as if it was a little kitten. One day Mrs. E. heard a great noise, and went to see what it was, when she found the old one trying to take the other by its back, as she would a little kitten, to bring it up stairs. I suppose she hurt the other in trying to do so, which caused the noise. She is still nursing it, although it is now not far short of her own size, and much fatter.—R. N. M. M.

Lateness of the Chimney Swallow.—(*Hirundo rustica*.) On Friday, November 2nd., in the village of Blunham, in this county, I was surprised to see three Swallows hawking for insects, as if in the middle of summer. The same birds were seen some days later by a friend of mine residing at Blunham.—EDWARD T. L. SMITH, Potton, Bedfordshire, November 14th., 1855.

A Real Rara Avis.—During the past week a bird of unusual size was observed flying towards Exmouth, on the Devonshire coast, from the sea. On arriving near land it wheeled round, and, after flying back some distance, was seen through a glass to descend into the sea near Straight Point. Two men immediately put off, and were fortunate enough to capture it. On examination, it turned out to be a Black Swan. It was poor in flesh, and evidently exhausted by long flight, but shewed by its plumage, and other indications, that it had never been in captivity. It is supposed that by a long succession of storms it has been driven from the Pacific, its only known habitation.—“The Times,” October 30th., 1855.

Perhaps some of the Devonshire readers of “The Naturalist,” can give a little more information on this subject.—*IDEM.*

The Mealy Redpole.—Many of these beautiful little birds have been seen in the neighbourhood of Leeds since the beginning of this month, (November.) Both old and young ones have been caught by bird-lime in considerable numbers. The old birds have on the occiput a large patch of deep brilliant crimson. The anterior and lateral portions of the neck and breast are shaded with a much lighter crimson. Their length is five inches; the wing from the carpal joint is three inches. The tail is considerably forked. The young birds have a much less crimson patch in extent on the occiput; none whatever on the breast or neck, and their general plumage is a much lighter shade. The Lesser Redpole has not been seen at all.—*RICHARD HOBSON, M.D., Leeds, November 19th., 1855.*

Green Sandpiper.—A pair of those rare birds known as Green Sandpipers have been observed to frequent the Wooler Water, and the River Till, adjacent, since the latter end of July. A few weeks ago, George Culley, Esq., of Fowberry Tower, succeeded in shooting one of them; and during the late severe weather, John Thompson, Esq., of Wooler, shot the other. Both of these specimens were males, and weighed two ounces and a half each.—*Newcastle Paper, March 24th., 1855.*

Oyster-catcher.—On Thursday morning last, O. C. Harris, Esq. shot a specimen of the Pied Oyster-catcher, Sea-pie, or Olive, (*Hæmatopus Ostralegus*, Linn.; *L' Huîtrier*, Buff.) near Mr. Stoke's mill, in the parish of Weston Favell, Northamptonshire.

Additional Note on the Starling in the “Birds of Terrick.”—On another occasion my attention was attracted by the screams of a pair which had young ones in a hole perforated by the Green Woodpecker in an elm, full eighteen feet from the ground. On looking up I perceived a Stoat, (*Mustela erminea*), about to enter the hole. How he managed to get up to that height I had not the opportunity of observing; but how he managed to get down again was by a process exceedingly simple, and by a far less

circuitous route than that by which I should imagine he had attained that altitude, namely, by coolly letting himself drop into the hedge-row in which the tree stood, the brushwood receiving him in the most friendly manner; and he reached 'terra firma' as whole in skin, and as sound in limb, apparently as when he quitted it.—S. STONE.

Short Sun Fish.—A fine specimen of the Short Sun Fish was caught within the last week by the crew of a collier, while crossing Boston Deep. It was lying on its side, and floating upon the surface of the water. The men struck it with an harpoon, and then made a rope fast to its snout, with which it was hoisted on deck, weighing close upon a ton, at least so the men said, in whose possession it was when I saw it. Flesh, white and tough, as was also its skin; no scales could be seen; mouth very small, scarcely large enough to admit the hand; teeth, none, but an ivory-like substance, as far as I could judge in one piece, at upper and lower side of mouth, corresponding to the human front teeth. Perhaps you will be kind enough to insert this notice in the pages of "The Naturalist."

A word or two about this most excellent work. I doubt not but there are many beside myself who would be much rejoiced to find its size increased. If it were possible to double both size and price I think its usefulness would be much added to, as there are many features, most important to the tyro in Natural History, which this publication presents over others; one in particular, great simplicity, with that most desirable absence of as many scientific words, difficult of comprehension, as possible. I believe these opinions will be found very general amongst the subscribers to "The Naturalist," as I am quite certain it is a very great favourite with all who peruse its pages, so surely this enlargement would still more enhance its value.—GEORGE HODGE, Seaham Harbour, January 10th., 1856.

*** I shall be glad to learn the opinions of the readers of "The Naturalist" as to the desirableness of doubling its size and price. I have wished to do so myself, and have a heavy arrear of MS matter, which I should be glad thus to keep under; but I must know what my readers say. They can tell me by post individually;—or, on second thoughts, which are said to be best, I will enlarge the magazine as proposed, unless the subscribers, namely, a majority of them, express a wish to the contrary.—F. O. MORRIS.

Music hath charms for the Butterfly.—During the performance of an evening concert in the Town Hall, Brighton, and whilst Madame Jenny Goldschmidt Lind was delighting the crowded audience with her charming voice, out came a Peacock Butterfly, and flew about the Hall, occasionally hovering over the head of the sweet singer, which created quite an interest in its flight; this it continued doing for some time, evidently enjoying the warmth and brilliancy of the scene, if not the very pleasing notes that

charmed all who heard them. This concert took place on December 19th., which was an intense cold day, but the crowded state of the Hall occasioned its being extremely warm, and no doubt induced the Peacock to quit its hybernaculum, under the delusion that summer had again returned with all its sunny memories.—SIDNEY STYLE, Brighton.

Plantago lanceolata.—On the 7th. of June, 1854, whilst entomologizing on Carrington Moss, I found the above-named plant, my attention being first directed to it by its curious appearance. I have since shewn it to a botanist of note in this city, with whom I am acquainted, who informed me of its rarity.—C. FRYER.

Boletus squamosus.—I found a specimen of this fungus on the Quercus Robor, 27th. of August, 1854. It weighed five pounds and a half, and measured four feet ten inches in circumference.—Idem.

Occurrence of Acherontia atropos at Southport.—A fine specimen of this beautiful and highly-prized Moth was taken here on the 29th. of August last. It was found by a gardener amongst some weeds, and was shortly after shewn to me.—Idem.

Vanessa Atalanta.—Three specimens of this handsome Butterfly have been taken here this season. One of them was captured by myself, August 31st., and the two other specimens were taken by friends, residents of the place, and who had not seen it before for several seasons.—Idem.

Relaxing of Insects.—Being in London lately for a couple of days, on business connected with the drainage of my glebe land, I took the opportunity of visiting the British Museum, and while looking over the splendid collection of foreign insects there, I was struck with the intelligent and animated expression of the countenance of a man who looked like a mechanic, and who was talking very eagerly to one of the curators about some insect-hunting. When he went away I enquired his name, which I found was Turner, and following him out was so fortunate as to overtake him, as he had stopped to speak to some one in the passage. I went with him to his temporary lodging up three pair of stairs, at No. 39, Broad Street, not far from the Museum, and there found his wife, who proved to be as zealous a collector as himself. He shewed me his captures in the New Forest last summer, and a "splendid lot" they were, and set in the most perfect manner. But what I wish to mention more particularly is the mode he shewed me of relaxing insects, which is an improvement on those I have hitherto seen. This being the season of the entomologists' "relaxation," I cannot do better than give it, as it may be useful to many. It is as follows:—Get an earthen jar with a lid or cover to it, or if it has not a lid, it will do to cover it over with a doubled or trebled cloth well

wetted. Instead of putting in any sand or earth and damping it, fill the jar nearly up with water, and float thereon a large cork or bung, or piece of cork, leaving only room for the height of the pins between it and the lid or cover. On this cork stick the insects that require to be relaxed, and each time well wet the cloth cover, or, if there be a lid, the cloth that should be put between it and the jar when placed upon it, or still better, sewn to and round it, so as to save trouble. In twenty-four or forty-eight hours, according to size, you will find your insects well relaxed, and without being wetted as is often the case under the old plan. There is also much less injury from mould, or rather, I should say, that it is considerably postponed.—F. O. MORRIS, January, 8th., 1856.

IN a letter to me of the 14th. instant, from the Rev. W. W. Cooper, of West Rasen, Lincolnshire, he writes:—"We have had a great many Golden Plover lately, but the snow-storm has driven them away. I hope when the mild weather returns they may re-appear. The hedges are one mass of haws, but I never saw so few of our winter birds, I have not seen two score of Fieldfares or Redwings, and I do not think there is one of the former in the neighbourhood now. Woodcocks and Snipes are also much scarcer than usual—*Quære*: the reason? Food was never more abundant, but the birds have not made their appearance *at all*."

I insert the above extract for the sake of corroborating the statement, as to the unusual scarcity of winter birds usually common. I had observed the fact before, but had not made any definite mental note of it. The only supposition I can suggest is, that aware, by some prescient instinct, of the coming of the unusually early hard weather we have had, and have indeed still, they betook themselves to the south to avoid its severity, and that when they have consumed the food in that quarter, they will eat their way down to us. Possibly something of this kind may be the case every year. Certainly I never remember seeing haws in greater abundance, nor of a more beautifully bright red colour.—F. O. MORRIS, Nunburnholme Rectory, December 22nd., 1855.

REVIEWING.

I HAVE for some time had a theory on the subject of Reviews, if that can indeed be called a theory which is rather a perception of a fact, a plain and unmistakeable fact, that the Gentlemen who go by the name of Reviewers, are, at all events for the most part, more apt to be forward to display their own erudition and talents, than to care to display those of the authors, (supposing always that there be something in them worth displaying,) whose works they are imagined to do honour to by noticing.

Instances of a contrary kind are only exceptional ones, and prove the rule to be as I have just stated. Let me here disavow any personal pique in the matter, every review of my own works having been favourable.

No doubt they, the Reviewers, are paid well for the work they perform, and it answers their purpose to do as they do, but that the greater portion, by about ten thousand to one, of what they put in print on the subject, is not the sort of thing that the author, whose work is reviewed, either wants or wishes, or cares a groat about, is shewn at once by the fractional part of the same which he extracts, or his bookseller for him, for the purpose of notifying to the public, through the condensed medium of an advertisement, what is, in the estimation of the said Reviewer, the character of the volume or volumes in question. Such is my opinion of professional "Reviews and Reviewers," and entertaining it pretty strongly, and having at the same time, a most profound contempt for the Editorial "We," I do not intend to follow what I pronounce to be on their part a bad example, but to take a precisely opposite course, in noticing from time to time any works which ladies or gentlemen, authoresses or authors, may feel disposed to forward to me for the purpose; that is to say, I shall be as brief in such notices as I possibly can, and shall give only an indication of the character of each work, to be useful, (if a good character of it appears to me to be deserved,) to the said authoress or author. I have spoken.

Nunburnholme Rectory, December, 1855.

F. O. MORRIS.

Reviews.

The Flowering Plants and Ferns of Great Britain; an attempt to classify them according to their Geognostic Relations. By JOHN GILBERT BAKER. London: W. and F. G. CASH.

THIS is a small work of thirty pages. Its title indicates its nature. It is well and carefully done, as might be expected from the high botanical character of the author. The subject has been hitherto neglected both by botanists and geologists.

The Entomologist's Annual for 1856. London: VAN VORST. Price 2s. 6d.

THIS work supplies, and well supplies, an evident desideratum. It gives much useful information, such as a list of new species discovered during the preceding year, a list of British Entomologists, etc., etc. The writer is perhaps rather too off-hand in some of his observations.

Proceedings of Societies.

Aberdeenshire Natural History Association.—October 5th., 1855. Mr. A. Stephen in the chair.

The proceedings of the Session, 1855-6, were commenced by an address from Mr. J. Longmuir, Jun., which, in his absence, was read by Mr. W. E. Brown. It consisted principally of a short account of what had been already done in a few of the principal divisions of the animal kingdom in Aberdeenshire, and of how much yet remained to be accomplished. The essay was well received, and a general conversation on its subject ensued. The Association then adjourned.

The following are appointed office-bearers for 1855-6:—*Honorary*—President, Professor Owen, F. R. S., etc.; Vice-Presidents, Dr. James Moir and the Rev. J. Longmuir. *Ordinary*—President, Mr. Alexander Stephen; Vice-President, Mr. E. Donald; Treasurer, Mr. J. Taylor; Secretaries, Mr. W. Brown and Mr. J. Longmuir, Jun.

This Association was established for the purpose of studying the fauna and flora of the counties of Aberdeen, Banff, and Kincardine.

Such of the readers of "The Naturalist" residing in any of these counties as are interested in the advancement of Physical Science within the district, are invited to communicate with Mr. J. Longmuir, St. Mary's Place, Aberdeen, or with the other office-bearers.

Aberdeenshire Natural History Association.—Special Meeting, October 19th. A *pro-re-natâ* meeting was held for the purpose of exhibiting a specimen of the Esquimaux Curlew, by the kind permission of William Cusack Smith, Esq., who shot the bird on the 6th. of September last, in the neighbourhood of Durriss House, Kincardineshire, where he was residing at the time. It was in beautiful preservation. Mr. A. Mitchell exhibited a fine specimen of the Ballan Wrasse, (*Labrus bergylla*), the property of Dr. Dyce, obtained a short time previously in the vicinity; and an interesting variety of the Sparrow Hawk. Mr. E. Donald also shewed some microscopical preparations. The Association then adjourned.

The Querist.

IN the "Times" of Friday, the 21st. of December, there was a letter from Mr. G. W. Bell, of Chancery Lane, on the subject of the folly of exterminating Sparrows, and referring to the "Times'" "excellent article" on the same subject. Can any correspondent of "The Naturalist" tell me in what Number of the "Times" the said article appeared. A friend has sent me a long paragraph from the "Times," copied from the French "Constitutionnel."—Was that the one?—F. O. MORRIS, Nunburnholme Rectory, Hayton, Yorkshire, January 8th., 1856.



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TO ENTOMOLOGISTS.

MR. FOXCROFT begs to return his sincere thanks to the Trustees of the British Museum, the Nobility, Gentry, and Clergymen, and also, particularly to the Members of the Entomological Society, for the patronage he has received for a number of years, and takes the liberty of informing them and others, that he intends making another journey into Scotland, for the purpose of collecting Insects during the Summer of 1856, from the 15th. of March, to the beginning of July. He purposes spending the rest of the season in Wales and parts of England to the end of October, making the season seven months and a half.

Mr. Foxcroft, to enable him to carry out this plan, wishes to raise a sufficient sum by Subscriptions of £1. 3s. each Subscriber, who shall be entitled to two specimens of the order he particularly wishes to obtain; the whole of the Insects collected to be shared in November, on Mr. F.'s return. The boxes in which the Insects are delivered to the Subscriber, to be his property.

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NOTICES TO CORRESPONDENTS.

Communications have been received from F. P. FERNIE, Esq.;—E. M. A.; —MR. J. J. REEVE;—O. S. ROUND, Esq. (five);—MR. W. SUTHERLAND;—REV. R. P. ALINGTON;—J. GARLAND, Esq.;—MR. PASS BALSHAW;—WALTER GREGOR, Esq.;—H. F. WOOD, Esq.;—H. SMURTHWAITE, Esq.;—P. W. WEST, Esq.;—MR. H. E. SMITH;—MR. T. EDWARD;—J. H. DAVIES, Esq.;—REV. J. B. GRANT;—E. J. MAUDE, Esq.;—REV. G. SOWDEN;—MISS EMMA BROWN (two);—P. E. COOMBE, Esq.;—JOHN BROWN, Esq.;—MR. MELTON BATEMAN; —SIR J. W. GUISE, BART.;—F. P. MORRIS, Esq.;—W. TWEEDY, Esq.;—F. B. CUMING, Esq.;—ARCHIBALD HEPBURN, Esq.;—W.

ERRATA.—Page 2, for 'Weddale,' read 'Widdale;' for 'Lough,' read 'Trough.' Page 3, for 'Shunner,' read 'Shunnor.' Page 5, for 'Weddale,' read 'Widdale;' for 'Carn,' read 'Cam.' Page 26, for 'Seamer,' read 'Simmer.' Page 27, for 'Girsdale,' read 'Gordale.' Page 28, for 'Kirlby,' read 'Kirkby.' Page 37, for 'omealis,' read 'vinealis;' for 'Mnium,' read 'Mnium.' Page 38, for 'polygamium,' read 'polygamum;' for 'tramulosum,' read 'hamulosum;' for 'Shreberi,' read 'Scheberi;' for 'peteromalla,' read 'heteromalla.' Page 40, for 'Brawtrope,' read 'Bramhope;' for 'emerges,' read 'emerge;' for 'unpar- donable,' read 'unfavourable.' Page 41, for 'eugeogenous,' read 'eugogenous;' for 'hygrometrica,' read 'hygrometrica.' Page 42, for 'cileata' read 'ciliata;' for 'anutangium,' read 'anictangium.'

* * Correspondents are particularly requested to write the names of persons, places, and things VERY DISTINCTLY.

A box of insects has been received, with a note signed "H. S. WYNDHAM," but without the address. I wish to thank the writer, and take this mode of asking for it that I may do so.

F. O. MORRIS.

Communications, Drawings, Advertisements, etc., to be addressed to the Rev. F. O. MORRIS, Nunburnholme Rectory, Hayton, York;—Books for Review and Parcels, to the care of Messrs. GROOMBRIDGE, 5, Paternoster Row, London.

TO ADVERTISERS.

Advertisements are inserted on the Cover of THE NATURALIST, on the following Terms:— $\frac{1}{3}$ of a page, 4s.— $\frac{1}{2}$ of a page, 7s.— $\frac{1}{2}$ of a page, 12s.—Whole page, 21s. Bills stitched in, 20s.

Advertisements to be sent not later than the 15th. of the Month.

THE COMMON SQUIRREL.

BY E. K. B.



IN the summer of 1854 my children had a tame Squirrel given them, together with a rotary cage—which one of the correspondents of “The Naturalist” considers a cruel invention, and denominates “a treadmill,” and the use of which another defends—in the course of a few days the little prisoner made his escape, and not being heard of for about six weeks, was considered lost; when, to the joy of all, he was discovered running about the garden, and leaping from tree to tree, in the largest of which (an acacia, about forty feet high, growing at the bottom of the garden, and close to another house,) he was found to have built a nest. I fed him with nuts, which I placed in a basket suspended from the tree, and he lived happily, and in excellent health, all through the intensely cold winter, until the following June, when he took his departure, disturbed, as I imagine, by some workmen who were engaged close to the tree. I heard nothing of him till last October, when I was informed that a Squirrel—which I have not the slightest doubt is mine—had taken up his abode in a tree in a gentleman’s garden, about half a mile off, and within less than that distance from Westminster Bridge, where he is now living, and if undisturbed will no doubt continue to do so. The district between his old and new home is a thickly-populated one, and intersected by several streets.

While he resided on my premises I constantly saw the neighbouring cats, which swarm here as in most other urban districts, watch him with envious eyes, and frequently endeavour to catch him, but he was invariably too vigilant and nimble for his enemies.

I did not find, as Mr. Bell states in his “British Quadrupeds,” that the Squirrel “remains during the greater part of the winter in a state of almost complete torpidity,” for I do not think a day passed during that excessively cold winter, (the winter of 1854-5,) without my seeing mine frisking about the garden, and a pretty and interesting sight it was to watch him sitting up in the snow, (and sometimes while actually snowing,) eating his nuts, quite regardless of the bitter blasts, which while seeming merely to play with him, made all nature beside shrink before them.

On one occasion I was witness to a most interesting battle between my pet Squirrel and a tame Raven. The quarrel was occasioned by some nuts which I had thrown out of the parlour window, and which had attracted the Raven’s attention. The Squirrel was sitting up in a corner of the garden eating some of them, when the Raven having gathered up and hid all he could find at a short distance from the Squirrel, at length approached close to the latter to pick up the few that remained there, when my furry pet, after allowing my feathered one to approach within a few inches of

him apparently unnoticed, (for he continued up to this moment seated on his hind legs eating his nuts in the most unconcerned manner,) made a sudden dart at the legs of the other, uttering at the same time a slight scream; whether he bit his antagonist or not I cannot say, but the latter ruffled his feathers, jumped into the air with a great splutter and screaming, and attempted to return the compliment; but the Squirrel was too nimble for him, and most fortunately so, for one stroke of the Raven's powerful beak would have cut short the life of his foe, and at the commencement of the fray I certainly thought my poor Squirrel's days were numbered; but he was a brave little fellow, and charged the Raven in the manner described five or six times, and ultimately came off victorious, or at least had the best of the fight, for he remained master of the field and in possession of his nuts.

Sweet almonds were the favourite food of my Squirrel, and he preferred these to all kinds of nuts, probably because he had not the trouble of cracking a shell, although that to him was but the work of a moment. I used frequently to fill his basket with sweet almonds, hazel nuts, chesnuts, and acorns, and I invariably found that he eat them in the order enumerated, the acorns being always left till the last. He drank copiously at a neighbouring roof-gutter, which generally supplied him with water; but in the very hot dry weather I know not where he went to quench his thirst, but he appeared well and happy in all weathers.

While on the subject of Squirrels, let me caution your readers against buying those carried about by men on their arms, and offered as tame Squirrels. They are nothing but wild ones having the lower jaw teeth sometimes filed off, but more frequently *extracted*, to make them harmless, which cruel practice renders the poor little animals unable to take care of themselves, or of tasting nuts—their natural food, and they almost invariably pine away, and ultimately die of starvation. If the Society for the Prevention of Cruelty to Animals would turn its attention to these poor little sufferers, it would, I think, be employing its funds more usefully, and more in accordance with the intention of its subscribers, than in squabbling as to whether the Christian or Jewish mode of slaughtering cattle is the least painful.

I make no apology for offering the above remarks to the readers of "The Naturalist," for I think the fact of a Squirrel taking up his abode and building a nest in a black and sooty tree in London, and of his engaging in combat with a Raven, are such as have seldom if ever occurred before, and are quite worthy of being recorded.

Kennington Road, London, November, 1855.

With regard to the hibernation of the Squirrel, alluded to above, I

may mention that a few days ago, in the middle of the hard weather we have had, I saw one busily engaged in nibbling the haws on a hedge. I came within two yards of him, he having, on seeing me approach, only retired to the thick part of the bush he was in; but on my coming thus close to him he took himself off.—F. O. MORRIS, February 5th., 1856.

NOTES ON THE CUCKOO, (*CUCULUS CANORUS*.)

BY J. MC'INTOSH, ESQ.

———"There are still in thee,
Instructive Book of Nature! many leaves
Which yet no *mortal* has perused."

IN addition to what we have already published in the first volume of "The Naturalist," on the habits of this singular bird, we now beg to lay the following notes before our readers, to shew them that we are not totally unacquainted with the habits and history of *Cuculus canorus* of Linnæus, and also to shew that testimonials have accumulated in our favour, not only that the female Cuckoo *does* cry "*Cuckoo*," but that she on certain occasions *does feed* her own *young*, and that they have been observed in this country *long after the first week in July!*

Our first note is from the pen of Mr. John Middlemis, Bentham Hill, Tunbridge Wells, who writes as follows:—"I am as sure as I am of my own existence, that the female does utter the well-known cry, and also that the Cuckoo does sometimes feed its own young. As proofs of these assertions I offer the following:—I have stood within three feet of a Cuckoo while depositing its egg in the nest of the Robin, and I have heard that Cuckoo when she left the nest after depositing her egg utter the pleasing sound "*Cuckoo*" twice, as distinctly as I ever heard it in my life. I am certain it was the female, as I stood in a cellar where there is a small grated window surrounded with ivy; a Robin had made a nest on the ledge of the window. Happening to be in the cellar one day, and hearing a rustling noise at the window, I went up to it, and saw a Cuckoo, but in approaching I had disturbed her, for she flew away. I observed that all the eggs (four in number) of the Robin had disappeared, and that the nest was empty, (whether the Cuckoo had east them out or not I cannot tell, but I found the shells on the ground when I went out.) Thinking that the Cuckoo might return, I remained at the window as quietly as possible, and she did return, but she exhausted my patience, as I had to sit in rather a tiring position in order to see her, and I went out. On going round to the window she flew away, and, as I have said, called "*Cuckoo*" twice. I looked in the nest and there was her egg, which I

knew was not in the nest before she returned the second time. I may state that coming out of the cellar and going round to the window did not occupy more than thirty seconds. In watching the progress of the young Cuckoo, which in due course, under the fostering care of the Robin, made its appearance, I have seen from the same window a Cuckoo more than once bring food to it. I well remember a Cuckoo carrying food to a young one, some ten years ago, at Kingsbury, in Middlesex. I recollect it well, as it was the first young Cuckoo I had ever seen, and I discovered it by seeing the old one go to the nest with something in its mouth. I saw it go several times, but I afterwards found that the Hedge-Sparrow did the most of the feeding. I noticed it particularly, as I had read that the Cuckoo did never feed its own young."—From the "Gardener's Chronicle."

This interesting and simple account bears on the face of it the stamp of truth, and must be considered as most conclusive evidence in our favour, (see vol. i. of "The Naturalist," that the female *does* "*cry Cuckoo*," and that she *does* on certain occasions attend to and FEED her own young! Some of our readers will no doubt be somewhat surprised at reading the very interesting letter above, as quoted from the "Gardener's Chronicle," when it is remembered that that Journal opened its pages to an impudent denial of my statements, and refused me the means of replying to the writer in its pages. These rather capricious gyrations of the Editor of the Chronicle, it is needless to say, mean nothing at all, and no doubt those who read that Journal have long since, like ourselves, ceased either to care for, or wonder at their occurrence.

To the already many accounts of Cuckoos being seen and heard in this country long after the first week in July, we extract the following from a letter in the "Times," by the Rev. E. H. Thomson, Lyneham Vicarage, Chippenham:—"On Friday, the 28th. September, 1855, a Cuckoo was seen and heard in this parish by two boys, one of them a son of mine. The bird was on the wing, uttering his well-known cry clear and loud, and flying in a north-east direction. The cry of the Cuckoo is considered to cease at the beginning of July." Again, a writer in the eleventh volume of "Notes and Queries," says, "As these birds arrived late, so they seem to take their departure late,—a friend having seen a Cuckoo on the 5th. September, 1855."

While residing at Taunton, Somersetshire, during the years 1852 and 1853, we frequently flushed an adult Cuckoo in the Nurseries there between the hours of nine and twelve, from August 18th. to September the 5th., which on two occasions uttered the cry of "Cuckoo" clear and loud whilst flying from one part of the Nursery to the other, and sorry I am to record that this bird fell a prey to a murderous gun! Here also I had the pleasure and satisfaction of again witnessing the feeding of the young by the parent

bird, assisted by a Hedge-Sparrow, and when leaving the nest, or if suddenly disturbed, repeat the cry of "Cuckoo, Cuckoo." I had this last June, (1855,) the pleasure of observing the same occurrence in the south of Scotland, namely, in Kirkeudbrightshire, with two different birds, about two miles apart, on those bleak and barren hills between the villages of Lawriston and New Galloway, where there is no human habitation within miles of each. In both of these instances the Cuckoos were assisted by the joyous Skylark; in both instances also did the female utter the cry "Cuckoo." I therefore do pity a certain Company, who, as our readers know, in an evil hour bowed the knee to worship and glorify one another, that Nature should prove so ungrateful for their patronage, and, as it were, unasked, send such a flood of light upon this matter, as to annihilate clean the borrowed light of their rickety theory!!

In making the above remarks I wish it to be understood that I am not vain enough to consider for one moment that my observations on this singular and interesting bird *are novel* to close observers of the wonderful works of the Great Almighty; on the contrary, I am well aware that similar results have been observed by more experienced zoologists than myself; but the passions of some men are like heavy bodies down steep hills—once in motion they move themselves, and know no ground but the bottom. Every man ought to aim at eminence, not by pulling others down, but by raising himself, and enjoying the pleasures of his own superiority, whether imaginary or real, without intercepting others who have truth on their side, and in the words of Shakspeare—

"He who filches from me my good name,
Robs me of that which not enriches him,
But makes me poor indeed."

We shall now conclude with the following interesting extract from the pages of the "Annals and Magazine of Natural History," with which work many of the readers of "The Naturalist" may not be acquainted:—

"To no bird is the gift of prophecy more commonly attributed than to the Cuckoo, whose loud measured voice resounds in the woods, just clad with fresh verdure. The old German saying, 'Wann der gauch guket,' denotes the beginning of the spring, just as, according to Hesiod, the song of the Cuckoo announces the time of the spring rains. Two old poems describe the contention of Spring and Winter about the Cuckoo, and the lament of the herdsmen for him; the Spring praises, slow Winter—*tarda hiems*—reproaches the bird; the herdsmen represent him as taken away or drowned: the line is remarkable—

'Tempus adest veris, cuculus modo nempe soporem.'

He announces by his song the loveliest season of the year, but it is not

stated in these poems that he predicts to man. The Anglo-Saxon Codex Exoniensis, 146, 27, lately published by Mr. Thorpe, ascribes likewise to this bird the announcing of the year:—

‘Geacos gear budon, euculi annum nuntiavere.’

The popular belief still exists that whoever hears the cry of the Cuckoo for the first time in the year may ask him how many more years he has to live. In Switzerland the children cry ‘Gugger, wie lang lebi no?’ In Lower Saxony—

‘Kukuk vam häven,
Wo lange sall it leven?’

and then they listen and count as many times as the bird cries after it is questioned; so many years has he who asks the question to live; in other places the saying is as follows:—

‘Kukuk, becken V-necht, Sag mir recht Wie viel, jahr ich leben soll.’	}	‘Cuckoo, baker boy, Tell me true How many years shall I live.’
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The bird is said to be a bewitched baker or miller boy, and thus has pale or meal-coloured feathers. In a dear season he robbed poor folks of their dough, and when God blessed the dough in the oven, drew it out, plucked some off, and every time cried out as he did so ‘Gukuk,’ (Look, look!) God therefore punished him, and turned him into a thievish bird, who continually repeats this cry. This legend, which is of great antiquity, and resembles that of the Woodpecker, may at an early period have been otherwise told, and connected with it may have been the notion that the cry of the Cuckoo, if heard after St. John’s Day, betokens scarcity. In Sweden he prophecies to unmarried lasses how many years they will have to remain single.

Gok, Gik, sitt pa quist, etc.

Cuckoo, Cuckoo, that sits on a bough, etc.

If he cries oftener than ten times they say that he sits on a silly bough, and give no heed to his prophecies. Much depends on the direction in which the Cuckoo is first heard; if from the north (that is the unlucky side) you will have mourning during the year; from the east or west his cry portends good fortune. In Goethe’s ‘Fruhling sorakel,’ the prophetic bird announces to a pair of lovers their approaching marriage and the number of children. It is remarkable enough that our poets of the 13th. century do not mention the Cuckoo as prophecying; the thing was doubtless commonly known, for we find in Renner, ii. 340—

‘Doz weiz der gouch, der im für nâr
Hat gegatzet hundert jâr.’

And we have a story related by the Abbot Theobald of a certain novice,

who, assuring himself of living twenty-two years longer, from having heard the Cuckoo repeat its cry just so many times, concluded that it was needless for him to pass so long a period in mortification, and resolved to return and lead a jolly life for twenty years, thinking the remaining two quite enough for penitence. From the regularity of the time of his appearance, the Cuckoo is probably the bird designated *Zitvogel* in an old proverb, in accordance with the passage of Pliny, '*Cautus alitis temporarii quem cuculum vocant.*' It is said that he never cries before the 3rd. of April, and never after the festival of St. John; but he cannot cry before he has devoured a bird's egg. If you have money in your purse when he first cries, all will go well during the year; and if you were fasting, you will be hungry the whole year. When the Cuckoo has eaten his full of cherries three times, he ceases to sing. It portends misfortune to the Servian *Naiduken* when the *Kukavitza* appears early, and comes out of the black-wood. The froth in the meadows caused by the *Cicada spumaria* is called Cuckoo's spittle; Germ., *Keckukspeichal*; Swiss., *Guggerspen*; Dan., *Giögespyt*, otherwise *Hexenspeichel*—Witches' spit; Norw., *Troldkiöringspyc*; thus connecting the bird with supernatural beings. The names of some plants confirm its mystic character.—*Oxalis acetocella*; Old Germ., *Gouches-ampfera*; Swiss., *Gugger-sauer*; Anglo-Saxon, *Geaces-sure*; Dan., *Giogemad*, *Giogesyre*. It was believed that this bird liked to eat these:—Modern Germ., *Kukkuksbrot*; Fr., *Pain de Coucou*, *Pain cuculi*; Cuckoo-flower, *Lychnis Flos-cuculi*; Germ., *Kukkuksblume*. The Slavonians do not attribute anything bad or devilish to this bird, which they always represent as a female *Zeshulice*, sitting on an oak, bewailing the transitoriness of spring. The Servian *Kukaritz* was a maiden who long bewailed her brother's death, until she was changed into the bird '*Sinjo Kukavitza*,' (the grey.) So also in Russian songs it is a bird of mourning and melancholy; and Russian traditions speak of her as a young maiden changed by an enchantress."

December 10th., 1855.

ODDS AND ENDS.

BY THE REV. R. P. ALINGTON.

I FEAR the Owl in this neighbourhood as a species is fast disappearing. Is this the case generally? The Brown Owl, (*Uluda stridula*), I seldom hear, he is nearly extinct. His wild hoot on a summer's night! how often have I listened to him, perched on some old oak, "complaining to the moon!" By-the-by, "Ivy-mantled tower," does not our hooting Owl, the species I suppose Gray alludes to, invariably inhabit the woodlands? yet I certainly have somewhere read (I think the work was entitled "Ornitho-

logical Recreations,") that there are instances on record of the Barn Owl, (*Strix flammea*,) hooting. But the gun has done its work, so there is little chance of settling this question. Alas! for the bonny, bonny Owl. The Swift, too, rejoicing from his colour I presume, in a bad name, has of late years sensibly decreased in numbers: the reason not so easily accounted for. Crossbills have not been seen here for some years, though I can remember formerly shooting them in some numbers while hanging in all attitudes from the branches of the firs. The visits of the Kingfisher, too, are "few and far between."

Among animals the Hedgehog (harmless but persecuted) will not long exist. The lively Squirrel, also, has to exert all his activity to escape the hubbub that is made after him for destroying the young shoots of forest trees. There is one comfort, however; I think the Sparrow clubs have not only before them a very ruinous labour to themselves, but an *interminable* one too, and I therefore hope our pert little Cock-Sparrow will long live to enliven our house-tops in spite of the desolating clubs.

In a former number of "The Naturalist," (No. 53, page 161,) I mentioned that an Emu, in the possession of Richard Thorold, Esq., of Weelsby House, Lincolnshire, was sitting on six eggs so early in the season as March. Notwithstanding the excessive cold spring of 1855, she in due course of time managed to hatch three young ones. She was frequently, as the expression goes, 'happed' up with snow at the bottom of the ditch in which she had deposited her eggs; nevertheless, she kept her seat eight weeks. The young at first were striped something similar to the young Grebe pictured in Yarrell, (vol. iii., page 303;) this dress they very shortly lost, and assumed the plumage of their parents; but the heads of the young birds are much darker, and altogether they appear better dressed and much smarter than the older ones. Two of the remaining eggs contained full-sized young. The egg is very dark green—almost black, and rough, and long in proportion to its width. The elder birds are now about seven years old, and as they did not attempt to lay until 1854, it is possible that the Emu may not enter into the marriage state until it is four or five years old—the period when the birds I have alluded to appeared to reach their maturity. The young ones are now about half the size of their parents, and the female will attack any stranger who attempts to molest them, and she is no mean antagonist.

On the 5th. of December, 1855, I observed a few Bramble Finches, and predicted a severe storm, as these birds seldom visit this neighbourhood, excepting in very sharp weather; accordingly, a tremendous snow fell on the 6th., but the storm did not last much more than a week—the snow about five inches on the level. On Sunday, the 23rd., the frost was again very severe; the thermometer fourteen degrees below freezing point. During

this time the Fieldfare, wherever a thorn hedge was left in a state fit to bear fruit, was very abundant. The common Wild Duck not so common, but immense flocks of Teal resorted to Croxby Lake.

Some very severe weather set in again on the 10th. of January, 1856; the thermometer on the 13th. and 14th. indicating eighteen degrees of frost. I understand one of those now rare birds, the Bittern, has been killed below Louth. I have heard of no Swans. Some flocks of Wild Geese passed over on the 9th., indicating, I expected, a long blast, as they are seldom seen here so late in the season; but the heavy rain of to-day, (21st.,) and the extraordinary mildness of the latter part of last week, causes one to think more of green peas than Ducks.

By-the-by, a friend told me last week that he had been asked to look at a rare bird just shot, somewhere, I believe, near Louth; from his description probably the Snew, (*Mergus albellus*,) in its white plumage.

Snow Buntings, (*Emberiza nivalis*,) have been numerous. I have made one expedition to the sea-coast near Tetney, (the same spot which you, Mr. Editor, and I visited in company a few years ago, and which circumstance I dare say you well remember,) (I shall not forget it in a hurry.—F. O. M.) but did not get much to reward my trouble—innumerable Tringæ, Gulls, Redshanks, flights of Ducks, all too wary to come within shot. I obtained *Crex porzana*, (Spotted Rail,) in the parish of Little Coates in returning.

Such, except watching a few Herons wending their way to their accustomed trout streams, one of which I procured, has been the whole of my ornithological experience of the past season.

Rectory, Swinhope, January 22nd., 1856.

A CHAPTER ON INSTINCT.

BY THE REV. F. O. MORRIS.

THERE are two modes of reasoning, which may be adopted in an enquiry into the mysterious subject of instinct, the analytical and the synthetical. In using the analytical mode we reason from the advanced stage up to what may be called first principles. In using the synthetical we adopt an opposite procedure.

It seems to be thought that a knowledge of the higher organizations is best to be gained by the latter of these two methods, namely, by beginning with those forms which are the lowest in the scale of creation, and so proceeding upwards gradually, step by step, to those which are more and more complicated, until we reach those which, so far as we are able to judge, are the highest.

There is indeed one difficulty, or rather one cause for hesitation, in the

outset, namely, to trace which *are* the lowest creatures in the scale of animate creation; we can scarcely draw the line between the vegetable and the animal kingdom; nor do we know which kind in each approaches nearest to which in the other. So again, in arriving at the highest elevation it is difficult to know to what animal we are to attribute the highest powers—powers which we feel ourselves obliged to call instinctive, but which certainly border so closely on those of reason, that when we attempt to reason about them we find ourselves at once out of our depth, and are constrained to leave the matter where we found it, as to any conclusion to come to, as being “far above our thoughts.”

There is a passage in Holy Writ which, though considered by some to be strained in having such a construction put upon it, yet certainly does appear, because it appears so at the very first sight, to refer obviously to this supposed fact. I allude to Romans, viii. 21, 22.—“Because the creature itself also shall be delivered from the bondage of corruption into the glorious liberty of the children of God. For we know that the whole creation groaneth and travaileth in pain together until now.”

“We are but of yesterday, and know nothing;” but though this is indeed most true, short-sighted and ignorant as we are, yet it may have been intended to put into our minds to suspect some things, which hereafter we may find to have been so close to the truth, as to have been the very truth itself. We know not but that, which there is yet so much cause to suppose, our connection with the invisible world may be very much nearer and closer than many at all think of, or than any one can know, even as Jacob said, (Genesis, xxviii. 16,) “Surely the LORD is in this place, and I knew it not;” and so, in like manner, the creatures around us, which we only consider to be gifted with instinct, may, for ought we know to the contrary, and which there is such abundant reason to think, be endowed with powers far beyond mere instinct, so called;—powers, which if not identical with our own, may yet be closely akin to them. What a constraining effect should this thought have upon us in all our dealings with the dumb animals, which, though certainly God has placed in subjection under us, yet, as certainly, He has not so placed to be any otherwise than well treated by us. Who knows but that in the next world, even animals may be restored to their bodies, and may live again. Reason suggests at least this to us, and what says revelation in the passage already quoted?

But I have said enough by way of introduction, and I will, by and by, shew, by several striking instances, how much greater powers of, so to call them, the mental faculties there are in many, in so many, animals, than we may at all have thought of, and if in any individuals of a species, why not the same, even if supposed to be latent and dormant, in every other

individual of the species; and if in one species, why not in another; why not in every one of the genus to which it belongs, why not in every genus, why not in all; different perhaps indeed in many respects from each other, even as all may be from us; and yet, as in the living principle, so in the mental one, all partaking of one and the same immortality.

Now, as before briefly mentioned, there are some living creatures whose organization is so imperfect, speaking comparatively, and in the only way in which we can speak of them, that the whole duty of their existence appears to be to live. Doubtless they have their good and valuable use, but in our blindness we cannot trace it. Actions, properly so called, they have none—to discharge the functions of their being is all that they are gifted with the ability to do. They move indeed, attracted to, or repelled from, that which is hurtful or disagreeable to themselves, and this, beyond the power to desire nourishment from whatever suitable matter they may be surrounded by, is all of which they are capable.

The instances adduced in the following observations I have gathered from different sources—"nec meus hic sermo est." The whole subject is a very wonderful and deeply-interesting one.

Some mosses, as for instance the Club Moss of California, will, after they are actually dead, expand their leaves when moisture is applied to them, and appear as if revived, although they have no real life within them. Thus, too, the Hair Moss of Lapland, used by the inhabitants of that frozen region for bedding, if it becomes too dry for comfort, is relaxed, as pointed out by Linnæus, by being moistened. The Hydra, a species of the Polypus tribe, if it be turned inside out, that which was the inside assumes the part which the original outside had previously possessed, and the new inside conveys the like nourishment to the other which it had previously received from it. The common snail will remain torpid until moisture in the weather calls it forth to active movement, and at such times you will also see the frog and the toad unusually alert. They remain in some degree sluggish and insensible until the dew from Heaven, which re-invigorates them, is sent; and this their habit will doubtless in some degree explain the fact of their having in so many well-authenticated instances, been found imbedded in airless cavities, for ages and for generations. The like atmospheric changes affect the leach in the glass of water, the fish in the depths of the river or the sea; and even the housemaid, (I quote from a well-known writer,) may philosophize when she sees the cat washing its face; and the herd-boy be led to consider when he observes the hog carrying straw in its mouth, in anticipation of the rain that is about to fall.

But to return to the lower forms. Some of the molluscous animals—a step higher in the scale of creation—are possessed indeed of nervous portions,

which yet are connected with no brain as a common centre; and it appears certain that some creatures live in a state of unconscious existence, only capable of being excited to feelings of irritation, complacently vegetating all the rest of their life without any voluntary action whatever. The scalops and some of the star-fishes have eye-like spots, which receive impressions of light, although they give no power to the creature to discern external objects. Others, again, though incapable of motion, yet are furnished with an extension, answering in some degree to a foot, by which they are enabled to steady their fixed position.

(*To be continued.*)

THE PROPOSED INCREASE OF THE SIZE AND PRICE OF "THE NATURALIST."

I WAS in much difficulty to know how to act for the best. I have had very few letters against the proposed change, and very many more, (though they were not asked for, but only such as might contain the contrary opinion,) in favour of it. Still, as those who are against it may be so on the score of necessary economy, I cannot but feel that one such ought to outweigh a hundred others; for the cheapness of the magazine need not prevent any person from taking it in, whereas the comparative dearness of it might hinder some. It is like the case of the writing of sermons, a rule which I have myself systematically acted on, Preach for the poor, so as to be understood by them, and you must include the rich in the ability to comprehend; while if you preach what the latter only can understand, the former lose the benefit, which you ought to desire equally to convey to them. "Saxon words and short sentences" you will find, my reverend brethren, to be your most useful motto. Nay, in one of the letters alluded to above, the reason assigned for the writer's being against the proposed change was on account of the expense, and this by a worthy "Country Parson," none the less worthy for being a zealous ornithologist.

I hope you, my lay brethren, will not take for granted the opinion of the landlady in "Doctor Syntax," an opinion entertained by others, whom candid opinion might teach better.—

Syntax.—"And for your beef, and beer, and tea,
You kindly charge me—one pound three!"

Hostess.—"Tis cheap as dirt; for well I know
How things with Country Curates go."

So does the Editor of "The Naturalist."—"Quorum pars fui."

"This is the second time of asking."—

I forbid the Banns.—

"The Naturalist" remains at its present price.

THREE DAYS IN CAERNARVONSHIRE.

BY J. H. DAVIES, ESQ.

A Paper read before the Thirsk Natural History Society.

(Continued from page 42.)

A SHORT distance beyond Cwm y glo, a pond literally covered with the beautiful flowers of the White Water Lily, (*Nymphæa alba*), gladdened our eyes. During the last five minutes we had been wondering from whence the delicious perfume arose, which we had been enjoying, and here the enigma was solved. Nor were the banks of the pool without their special attractions in *Campylopus longipilus*, *Trichostomum flexicauli*, *Hypnum cordifolium*, several species of *Sphagnum*, and various other aquatic mosses. A short distance from the pool we gathered *Splachnum ampullaceum*, a species which, to be properly appreciated, should be seen in its natural condition. At this point some wild and mountainous scenery commences. Climbing Pen y llyn we had a magnificent view of Llyn Padarn, the glassy surface of which was glistening in the sun—a perfect picture of sublimity and grandeur. Nor was our climb up the hill side without its advantages in a bryological point of view, for we were so fortunate as to collect *Sphagnum molluscum* in fruit, intermixed with barren *S. squamosum*, fruitful specimens of *Hypnum fluitans*, *Aulacomnion palustre*, (*Bryum*, Hed.), and *Leucobryum glaucum*,* (*Dieracium*, Hed.) Descending the hill we observed a few fronds of *Botrychium lunaria*, (Moon-wort;) on the rocks at the commencement of Llyn Padarn, *Bartramia arcuata*, *Ptychomitrium polyphyllum*, and two or three species of *Racomitrium* occur in considerable quantities, and *Fontinalis antipyretica* floats in the water. On the opposite side of the road we collected another species of my favourite genus, *Bartramia fontana*, in beautiful fruit, and with three flowers; and very near it we found a species also with ♂ flowers, which at the time I supposed was *B. calcarea*, and I left the locality under the impression that I had put some specimens in my vasculum, but on reaching home was disappointed in finding such was not the case. The author of the "Bryologia Britannica" informs me that this species has not been noticed within the limits of the principality, although he has found it in Cheshire, so that it is likely I may be mistaken, but think it worth while to make this note on the chance that some of my readers may sooner or later have an opportunity of investigating the locality. We found nothing of importance between this place and Dolbadan, which we reached about noon.

Having fixed upon spending the night here, we arranged matters at the

* My collection contains fertile specimens of this species from my obliging correspondent, Edward Parfitt, Esq., of Exeter; and I have seen others gathered, by Edward Hobson, in the herbarium of my friend John H. Baker.

inn, and then shaped our course in the direction of the Castle. On the way we collected a little more *Diphyscium foliosum*, intermixed with *Pogonatum alvides*, and on the slate rocks in the wood below the Castle *Hypnum elegans* in considerable abundance, and *Mnium hornum*, *undulatum*, and *punctatum* and *Hypnum loreum*. The Castle, consisting only of a single circular ivy-covered tower, is situated on a rock on the bank of Llyn Peris. From this rock I have specimens of *Hedwigidium imberbe*, collected by my esteemed friend Mr. Nowell, of Todmorden, but was not fortunate enough to find it for myself.

After visiting this place we ascended a hill, called the "Foot of Snowdon," where *Hypnum scorpioides* grows on the moist rocks in huge masses, and near the summit *Campylopus longipilus* and *Andræa Rothii* are to be procured. Mr. Wilson, to whom I sent specimens of the *Campylopus*, remarks, * * * "It should at any rate be called *var. calous*, for there is a total absence of the long diaphanous tips to the leaves which designate *C. longipilus*."

We were much struck with a large patch of *Allosorus crispus*, the bright green fronds of which contrasted finely with the grey rocks on which it grew. I think I shall never forget the sights we saw, and the sounds we heard, from that "misty mountain top,"—the craggy rocks on which we stood, behind us the sharp barren peaks of the mountains rising up to the clouds, the picturesque ruins of Dolbadarn Castle in the valley beneath, and beyond it the deep waters of Llyn Peris, whilst further still might be seen the slate quarries, dug deep in the interior of the mountain. But hark! that sound which strikes upon the ear, and echoes from crag to crag. It is a blast of the horn from the quarries of Allt. Dû! the signal which intimates that the blasting operations have reached a crisis. If you are within reach of danger, *saute qui peut*. Then breaks out the rolling roar of repeated reverberations, now echoing and re-echoing amongst the rocks and mountains, and then dying slowly and gently away like the sounds of distant thunder.

Descending from the eminence on which we stood we again obtained some exquisitely beautiful specimens of *Splachnum ampullaceum*, and as we continued our downward route we had the pleasure of adding another species, *Racomitrium pratense*, to the contents of our tin. The form we collected was in external appearance not very unlike *Grimmia patens*. On a large stone in juxtaposition with *Hymenophyllum Wilsoni* we gathered a quantity of the elegant *Jungermannia juniperina*. *J. asplenoides* and *albicans* were common in several places.

After dinner we walked on to see the falls of Caunant Mawr. We entered the narrow dell—through which the stream flows—at its commencement—

"A stern and lone yet lovely road;"

altogether the scene reminded us of those expressive lines of Scott.—

“It seemed some mountain rent and riven,
A passage for the stream had given,
So high the cliffs of limestone grey
Hung beetling o’er the torrent way,
Yielding along their rugged base,
A flinty foot-path’s niggard space,
Where he who winds ’twixt rock and wave,
May hear the headlong torrent rave,
And like a steed in frantic fit,
That flings the froth from curb and bit,
May hear her chafe, her waves to spray,
O’er every rock that bars her way.”

ROKEBY.

On the rocks we met with *Hypnum ruscifolium* and *plumosum*, and *Racomitrium aceculare*, and the trees which cover the sides of the glen produce *Orthotrichum Bruchii*, and a profusion of *Dicranum scoparium*, (*Dillenii*.) We were agreeably surprised to find *Orthotrichum Hutchinse* growing on the rocks in this romantic ravine; it was in beautiful fruit, but we were only able to procure a single tuft. *Hypnum heteropterum* and a small form of *Nothecium myosuroides* were obtained from the shady rocks. Just before reaching the point from which we obtained a view of the falls, a species growing on some loose rocks attracted our attention. It proved to be a mixture of *Campylopus longipilus* and *flexuosus*. Mr. Wilson, who appears to have doubted the specific distinctions of the two, regards it as an important fact.—Perhaps I cannot do better than introduce a quotation from his letter:—“It is interesting, because it supplies additional proof of the specific diversity of *C. longipilus* and *flexuosus*, which seem here to have grown intermixed, and therefore under precisely the same local influence.”

Turning an angle of the dell a scene of magnificent grandeur lay before us.—The falls of Caunant Mawr—the glittering waters come dashing headlong through a dark chasm, then turning suddenly aslant, rush with fierce impetuosity down the face of the huge boulder, and fall in a boiling torrent into the pool beneath: a scene worthy the glowing pen of a Scott, or the “pencil pregnant with celestial hues” of a Turner.

On the left the precipitous side of the glen is covered with tall trees, on the right the steep bank clothed with various species of beautiful ferns and numberless *Hieracia*, and in the back-ground peak above peak suddenly up-swelling to their culmination. Amongst the mosses growing within reach of the spray we noticed *Racomitrium pratense*, or, as Braun has characteristically named it, *R. cataractarum*, of a large size, and with bright brown capsules. In the stream above the falls we gathered *Fontinalis squamosa*, and on the rocks in its vicinity *Andræa Rothii* occurred in fruit, and a

beautiful *Sphagnum*, probably *S. contortum*, was found in the wet scars a little higher up.

We followed the course of the rivulet for a short distance, but met with nothing of importance, save some charming views of mountain scenery, which an enthusiastic artist was engaged in copying on his canvass. Our downward course lay through a wood, in which amongst other things we obtained *Dicranum squamosum*.

(To be continued.)

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 39.)

CERCOPITHECUS.

- Cercopithecus sabæus*, *Schinz.* *Simia sabæa*, *Schreb. Cuv.*
Cercopithecus griseo-viridis, *Des.* *C. griseus*, *Cuv.*
Cercopithecus pygerythrus, *Schinz.*
Cercopithecus tantatus, *Schinz.* *Ogilby.*
Cercopithecus faunus, *Schinz.* *C. cynosurus*, *Geoff. Scop. Kuhl.* *Simia faunus*, *Linn. Schreb.*
Cercopithecus melarhinus, *Schinz.* *Geoff. Des.* *C. talapoin*, *Schreb.*
Cercopithecus tephrops, *Bennet, Schinz.*
Cercopithecus petaurista, *Schinz.* *Simia petaurista*, *Schreb.* *S. ascanius*, *Schreb.*
Cercopithecus nictitans, *Schinz.* *Lasiopyga nictitans*, *Illig.*
Cercopithecus pogonias, *Schinz.* *Benn.*
Cercopithecus Diana, *Schinz.* *Simia Diana*, *Linn. Audeb. Schreb.*
Cercopithecus diadematus, *Geoff. C. Diana*, *Cuv.* *Simia leucampyx*, *Fis.*
Cercopithecus fuliginosus, *Schinz.* *Simia æthiops*, *Linn. Schreb.*
Cercopithecus æthiops, *Schinz.* *Cuv.* *Simia æthiops*, *Linn. Schreb.* *Cercocebus æthiops*, *Geoff.*
Cercopithecus cephus, *Schinz.* *Desm.* *Cuv.* *Simia cephus*, *Linn. Schreb.*
Cercopithecus mona, *Geoff. Desm. Cuv.*
- C. albogularis*, *Sykes.* *Simia mona*, *Schreb.* *S. monacha*, *Schreb.*
Cercopithecus erythrotis, *Schinz.* *Water.*
Cercopithecus Martini, *Schinz.* *Water.*
Cercopithecus Campbells, *Waterhouse.*
Cercopithecus ruber, *Schinz.* *Desm.* *Cuv.* *Simia rubra*, *Linn.* *S. rufa*, *Schreb.* *S. patas*, *Schreb.*
Cercopithecus pyrrhonotus, *Ehrenberg.*
Cercopithecus labiatus, *Isid Geoff.*
Cercopithecus monoides, *Schinz.*
Cercopithecus Lalandii, *Schinz.*
Cercopithecus Burnettii, *Gray.*
Cercopithecus Rolaway, *Schinz.* *Simia Rolaway*, *Schreb.*
Cercopithecus rufo-viridis, *Isid Geoff.* *Schinz.*
Cercopithecus melarhinus, *Schinz.*
Cercopithecus capillatus, *Schinz.* *Myopithecus capillatus*, *Isid Geoff.*

MACACUS.

- Macacus cynamoligus*, *Schinz.* *M. irus*, *F. Cuv.* *Simia cynamoligus*, *Linn.* *S. aygula*, *Linn.* *S. cynocephalus*, *Linn.*
Macacus aureus, *Schinz.* *Simia Mulatta*, *Shaw, Fisch.* *Semnopithecus aureus*, *Less.*
Macacus sinicus, *Schinz.* *Cercopithecus sinicus*, *Geoff.* *Simia sinica*, *Schreb. Cuv.*

Macacus radiatus, *Schinz.* *Cercocebus radiatus*, *Geoff.* *Simia radiata*, *Fis.* *S. sinica*, *Linn.*

Macacus Silenus, *Schinz.* *Cercopithecus vetulus*, *Ernl.* *C. senex*, *Erxl.* *Simia Silenus*, *Linn.* *S. veter*, *Linn.* *Papio Silenus*, *Geoff.* *Pithecus silenus*, *Desm.*

Macacus Rhesus, *Schinz.* *Simia erythraca*, *Schreb.* *Inuus erythræus*, *Wagner.*

Macacus Assamenis, *Schinz.*

Macacus nemestrinus, *Schinz.* *Simia nemestrina*, *Linn.* *Schreb.* *S. platypygos*, *Cuv.* *S. corpolegos*, *Raff.*

Macacus arctoides, *Guerin.*

Macacus fusco ater, *Schinz.* *Papio ochreatus*, *Ogilby.*

Macacus speciosus, *Schinz.* *Cuv.*

Macacus melanotus, *Ogilby.* *Cuv.*

Macacus Oinops, *Schinz.*

Macacus Pelops, *Schinz.*

Macacus ecaudatus, *Schinz.* *M. inuus Audeb.* *Inuus ecaudatus*, *Kuhl.* *Geoff.* *Cynocephalus Inuus*, *Lat.* *Pithecus Inuus*, *Desm.* *Simia sylvanus*, *Linn.* *Schreb.* *S. pithecus*, *Schreb.*

Macacus maurus, *F. Cuv. Geoff.* *Magus maurus*, *Less.* *Simia Cuvieri*, *Fisch.*

CYNOCEPHALUS.

Cynocephalus Gelada, *Schinz.* *Macacus Gelada*, *Rüpp.*

Cynocephalus Hamadryas, *Schinz.* *C. Wagleri*, *Agas.* *Simia Hamadryas*, *Linn.* *Papio Hamadryas*, *Kuhl.* *Schreb.*

Cynocephalus Babuin, *Desm.* *Papio cynocephalus*, *Geoff.* *Simia basilicus*, *Schreb.* *S. anubis*, *Schreb.*

Cynocephalus sphinx, *Schinz.* *C. Papio*, *Desm. Cuv.* *Simia sphinx*, *Linn. Schreb.*

Cynocephalus ursinus, *Schinz.* *Simia sphingiola*, *Herm. Schreb.* *S. porcaria*, *Schreb.* *S. comata*, *Schreb.*

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S. sylvestris, *Schreb.*

Cynocephalus Mormon, *Schinz.* *Simia Maimon*, *Schreb.* *S. Mormon*, *Schreb.*

Cynocephalus leucophæus, *Desm. Cuv.* *Simia leucophæa*, *Cuv.* *Inuus leucophæus*, *Kuhl.*

Cynocephalus niger, *Gray. Schinz.*

Cynocephalus Toth, *Ogilby. Schinz.*

Cynocephalus Choras, *Ogilby. Schinz.*

ATELES.

Ateles paniscus, *Linn.* *Simia paniscus*, *Linn. Schreb. Kuhl. Desm. Cuv.*

Ateles Chamek, *Fisch.* *A. subpentadactylus*, *Desm. Less.* *Cebus pentadactylus*, *Blainv.*

Ateles ater, *Schinz.*

Ateles marginatus, *Geoff. Desm. Kuhl. Cuv.* *A. frontalis*, *Benn.*

Ateles Belzebuth, *Geoff. Kuhl. Desm. Cuv.* *A. fuliginosus*, *Kuhl.* *Cebus Brissonii*, *Fisch. Schreb.*

Ateles melanochir, *Schinz. Cuv.*

Ateles hybridus, *Geoff. Guerin.* *Cebus hybridus*, *Fisch.*

Ateles fuliginosus, *Kuhl.*

Ateles hypoxanthus, *Prinz Max.* *Brachyteles macrotarsus*, *Spix.* *Eriodes tuberifer*, *Geoff.*

Ateles arachnoides, *Schinz.* *Cebus arachnoides*, *Fisch.*

Ateles frontatus, *Schinz.* *Eriodes frontatus*, *Gray.* *Brachyteles frontatus*, *Gray.*

LAGOTHRIX.

Lagothrix cana, *Humb. Geoff. Kuhl. Desm.* *L. Humboldtii*, *Geoff.* *Simia cana*, *Humb.* *S. lagotricha*, *Humb.* *Gastrimargus olivaceus*, *Spix.* *Cebus canus*, *Fisch.*

Lagothrix infumata, *Schinz.* *Gastrimargus infumatus*, *Spix.*

Lagothrix Pöppigii, *Schinz.*

MYCETES.

Mycetes seniculus, *Kuhl.* *M. fuscus*,

K

Kuhl. Stentor seniculus, *Geoff.*
Simia seniculus, Linn.
Mycetes chrysurus, Schinz. Stentor
chrysurus, Geoff.
Mycetes Caraya, Schinz. *M. niger, Des.*
Kuhl. *M. barbatus, Spix.* *M. dis-*
color, Spix. *M. rufimanus, Kuhl.*
Stentor niger, Geoff. *S. stramineus,*
Geoff. Kuhl, Spix. *Simia Beelzebuth,*
Linn. *S. Caraya, Humb.*
Mycetes flavicaudus, Schinz.

CEBUS.

Cebus currifer, Prinz Max. *C. lu-*
natus, Kuh.? C. cristatus, Less.
Cebus Azaræ, Schinz. *C. fatuellus,*
F. Cuv. Fisch. Prinz Max. *C. niger,*
Geoff. *C. Buffonii, Less.* *Simia fa-*
tuellus, Schreb.
Cebus robustus, Schinz, Griff. *C. ma-*
crocephalus, Spix. *C. cucullatus,*
Spin. *C. frontatus, Kuhl.*
Cebus Xanthosternus, Griff. Prinz
Max. *C. Xanthocephalus, Spix.* *C.*
Monachus, Geoff. *C. libidinosus,*
Spix. *C. variegatus, Griff.*
C. hypoleucos, Schinz.
Cebus flavus, Schinz. *C. fulvus, Des.* *C.*
Brissonii, Less. *Simia flava, Schr.*
Cebus apella, Schinz, Humb. Griff.
Desm. *C. griseus, Fisch.* *C. niger,*
Fisch. *Simia apella, Schreb.* *Calli-*
thrix apella, Geo. *C. frontatus, Kuhl.*
Cebus capucinus, Schinz. *C. barbatus,*
Geoff. *C. gracilis, Spix.* *Simia capu-*
cina, Linn.
Cebus griseus, Pöppig, Schinz.
Cebus albifrons, Geoff. *Simia albi-*
frons, Humb.
Cebus chrysopus, Schinz. *Simia chry-*
sopus, Linn.

CALLITHRIX.

Callithrix personatus, Geoff. Schinz.
Simia personatus, Humb.
Callithrix melanochir, Prinz Max,
Kuhl, Schinz. *C. nigrifrons, Spix.*
C. cinerascens, Spix.

Callithrix donacophilus, Orbig. Schinz.
Callithrix Moloch, Hoff. Schinz.
Callithrix infulatus, Lich. Schinz.
Callithrix lugens, Geoff. Schinz. *C.*
torquata, Hoff. *C. amictus, Geoff.*
Simia torquata, Humb.
Callithrix cupreus, Schinz. *C. cuprea,*
Spix.
Callithrix brunnea, Natt. Schinz.
Callithrix calligata, Natt. Wag. Schinz.

CHRYSOTHRIX.

Chrysothrix sciurens, Schinz. *C. Bol-*
iviensis, Geoff. *Callithrix sciurea,*
Kuhl, Cuv. *C. entomophagus, d'Or-*
bigny. *Simia sciurea, Shreb.*
Chrysothrix entomophaga, Schinz.

NYCTIPITHECUS.

Nyctipithecus trivirgatus, Schinz. *N.*
felinus, Spix. *N. Duruculi, Less.*
N. vociferans, Spix. *Aotus trivir-*
gatus, Humb. *Nocthora trivirgata,*
Cuv. *Pithecia miriquina, Kuhl.*

PITHECIA.

Pithecia satanas, Schinz. *Simia sata-*
nas, Humb.
Pithecia Israelita, Schinz. *Brachiurus*
Israelita, Spix.
Pithecia monachus, Geoff. Fisch. Schinz.
P. inusta, Spix. *P. rufibarba, Kuhl.*
P. hirsuta, Spix.
Pithecia rufiventer, Schinz. *P. capil-*
lamentosa, Spix. *P. nocturna, Les.*
P. rufibarbata, Kuhl. *Simia rufi-*
venter, Humb.
Pithecia leucocephala, Geoff. Schinz.
P. ochrocephala, Kuhl. *P. inusta,*
Spix. *Simia pithecia, Schreb.* *S. leu-*
cocephala, Aud. *Cebus leucocephalus,*
Fisch. *Callithrix leucocephala, Lat.*
Pithecia Guapo, Pöppig, Schinz.
Pithecia melanocephala, Geoff. Schinz.
Simia melanocephala, Humb. *Brachy-*
yurus Ouakary, Spix. *Cacajao*
melanocephalus, Less.
Pithecia Pogonias, Gray, Schinz.
Pithecia irrorata, Schinz.

(To be continued.)

Miscellaneous Notices.

TO THE EDITOR OF "THE NATURALIST."

I was surprised at seeing portions of a letter of mine to Mr. Smurthwaite, of Richmond, inserted in the December number of "The Naturalist," and as that letter was written to shew the great scarcity of the Chough in this county, I am at a loss to know how the contents could have removed Mr. S.'s former impression on the subject, nor did it seem to have that effect on him at the time, for in his reply to me in a letter, written on the 31st. October, 1854, he says, "The highly interesting information which you so kindly gave me with regard to the Chough, is, I think, important in more ways than one; it proves that the bird is more rare in Cornwall than is generally supposed, and would deter many from making a useless excursion to that coast for the purpose of obtaining its eggs—a project which I have frequently heard discussed." I think this extract clearly shews that Mr. S. fully understood the tenor of my letter to him. As Mr. S. is now in Germany I would wish to correct an error or two which have crept into his copy, as printed in "The Naturalist."—"Podstone," should be 'Padstow'; 'Mucrow,' should be 'The Manacles'; and I cannot help thinking 'numerous specimens' never appeared in my letter. With respect to your note at the foot of Mr. S.'s paper, I can only say that I have been a resident in Cornwall all my life-time, have several times visited the north coast, and for nearly sixteen years have lived on the south coast, eastern division, and have never yet seen a living specimen of the Chough; and Mr. Jackson, who, I believe, is surpassed by few as a *practical out-of-door* ornithologist, and has resided in Looe upwards of thirty years, has seen but one specimen in this locality during that period; and on two occasions, on visiting the western portion of the south coast of this county, from the Lizard to the Land's End, saw but seven specimens on the first, and three on the last visit; surely this does not say much for their being abundant in Cornwall. In what locality on the South Devon coast are they to be commonly found? For years past I have been trying to procure eggs of the Chough in this county, and have not yet succeeded.—STEPHEN CLOGG, Looe, December 18th., 1855.

Occurrence of the Mealy Redpole (Fringilla borealis) at Hammersmith.—On going through Leadenhall Market about a month since, accompanied by a friend, we saw high up amongst others at the live-bird sellers, a bird that attracted our attention, and the next day my friend bought it, intending to keep it alive, but it soon died, and he sent it to me for my collection. This was the Mealy Redpole. Since that time I have known one bird-catcher of this place take seven, three of which I purchased; and another told me he had taken about two dozen. On writing to that excellent

young naturalist, Mr. James Gardner, of 52, High Holborn, offering to get him some, he replied that he had then twenty-four in the flesh. That they occur here only occasionally I am certain, never having seen any before. In the Rev. F. O. Morris's splendid, cheap, and coloured work on British Birds, a work that no young naturalist wishing to attain eminence in his profession ought to be without, and from which, without any flattery, I can say I have learnt more about birds than I could have done from any other work on the subject; the author says, "In England it is in general only rarely met with, but great numbers are said to have been taken in the neighbourhood of London about the year 1827, and also in 1829." He then mentions where a few others have been taken, and goes on to say that it is an inhabitant of Greenland. Whether its leaving its ice-bound habitat, and coming to our more genial clime, augurs a severe winter, I leave it to those who are wiser in those matters than myself to determine. —JOHN DUTTON, St. Peter's Place, Hammersmith, December 15th., 1855.

Lime Tree.—A small Lime Tree in front of a house a few doors from mine in the Kennington Road, has this year put forth a second crop of leaves, and is now (in November) in full spring garb, while all its neighbours exhibit nothing but bare boughs.—E. K. B., Kennington Road, London, November, 1855.

The Retrospect.

Do not for a moment imagine that a Lillyputian in ornithology has the audacity to contest with a Leviathan in that interesting branch of Natural History. I wish to appear in "The Naturalist" simply as a recorder of facts—to describe Nature as I find her, and thereby invite inferences to be deduced by our ornithologists most eminent in that department of science.

You state that the Hawk figured in No. 55 of "The Naturalist," is, in your opinion, either a *variety* of the Sparrow Hawk, or probably an hybrid between the Kestrel and the Sparrow Hawk. By the way I may, *in limine*, remark how strange it is that with living authorities such as Selby, Yarrell, and Jardine, we have not been favoured *publickly* with a single line from our ornithological literati as regards this Hawk. My description of it may have been deficient, but in order to make it as intelligible as possible to the readers of "The Naturalist," I obtained Mr. Denny's assistance to figure it in the same number, and I did so chiefly to tempt opinions from men, whom we naturally look up to in order to set us right. You, Sir, are an exception to this omission, and your remarks have induced me to offer to your readers a still further explanation.

With respect to this Hawk being a "variety of the Sparrow Hawk," it appears to me that authors regard varieties of the Sparrow Hawk as

chiefly consisting in *difference in size and colour*. Macgillivray, for instance, says differences as to size between individuals, even of the same sex, are such that many persons have supposed the Sparrow Hawk divisible into several species. Males, he says, vary an inch and a half, and females as much as three inches; and he adds that "the Scutellæ are pretty regular as to number in this species."

Now, on the first, second, third, and fourth toes, the Hawk I possess numbers, respectively, eight, ten, twenty-two, thirteen, scutellæ; whereas the Sparrow Hawk numbers nine, fourteen, twenty-eight, and eighteen. Surely that acute observer of Nature never could have applied *pretty regular* to this marked discrepancy.

In the unknown Hawk the tarsi are an inch and three-eighths, whereas the tarsi of the Sparrow Hawk (male) are two inches and one-eighth, and of the female, two inches and five-eighths. The claws in the unknown Hawk are a pale horny white, with scarcely any incurvation, and not half the length of the claws of the Sparrow Hawk, which are, according to Selby, "long, strong, black, and hooked." According to Yarrell, "curved, sharp, and black." According to Morris, black, pale bluish at the base." According to Bewick, "black." According to Jardine, "sharp and hooked."

This difference as regards the claws in colour, length, and form, seems to be extreme in merely a variety.

The length of tail in the unknown Hawk is five inches; in the male Sparrow Hawk it is six inches, in the female seven inches and a quarter. The outer tail feathers in the unknown Hawk are an inch shorter than the eight central ones, whilst in both the male and female Sparrow Hawk they are not more than one-sixteenth of an inch shorter. The second outer feathers in the unknown Hawk are half an inch shorter than the eight central ones, whilst in the male and female Sparrow Hawk they are equal. This difference in the tail seems to me to be too wide to be merely accidental. In the unknown Hawk the length of the tail extends an inch beyond the tip of the wing, whereas the tail in both male and female of the Sparrow Hawk extends three inches beyond the tip of the wings.

In the unknown Hawk the length from the anterior bend of the wing to its tip is seven inches and three-quarters; whilst in the male Sparrow Hawk it is seven inches and five-eighths, and in the female nine inches. The longest feather in the wing of the unknown Hawk is the third, whereas in the Sparrow Hawk the longest feathers are the fourth and fifth. In the unknown Hawk the second longest feather in the wing is the second quill, whilst the second longest in the Sparrow Hawk is the third quill. The third longest feather in the unknown Hawk is the outermost quill, whilst the third longest in the Sparrow Hawk is the second feather in the wing.

The first quill feather in the unknown Hawk has an abrupt notch on the *inner* web, an inch and a half from the tip; whereas the notch on the first feather in the male Sparrow Hawk is two inches and three-quarters, and in the female three inches from the tip. The second quill feather in the unknown Hawk has an abrupt notch on its *inner* web, one inch and a quarter from the tip, and is gradually narrowed on its outer web, commencing two inches and a half from the tip; whilst the second quill feather in the male Sparrow Hawk has a notch on its *inner* web two inches and a half from the tip, and the narrowing on the outer web of the second quill commences in the male Sparrow Hawk three inches and three-eighths from the tip, and four inches and a quarter from the tip in the female. The third and remaining quill feathers in the wing of the unknown Hawk have no notch on their *inner* web; whereas in the male and female Sparrow Hawk the third and fourth quill feathers are notched, and in the male on the *outer* web it suddenly begins to narrow upwards of three inches, and in the female three inches and three-quarters from the tip of the wing.

In the unknown Hawk the dentate process is distinct, and is evidently that of a *true* Falcon; whereas in the Sparrow Hawk there is no positive tooth, and the point of the festoon is not near the *tip* of the upper mandible, as in the *true* Falcons, but about the *middle* of the mandible. In the unknown Hawk the upper mandible is three-quarters of an inch in length; in the male Sparrow Hawk it is half an inch, and in the female eleven-sixteenths of an inch.

In the unknown Hawk the distance between the nostrils is three-sixteenths of an inch; in the male Sparrow Hawk it is two-sixteenths, and in the female three-sixteenths of an inch. In the unknown Hawk the gape, from angle to angle at the base of the mouth, is three-quarters of an inch; in the male Sparrow Hawk it is half an inch, and in the female it is ten-sixteenths.

I will now, as you seem to encourage the idea that the unknown Hawk is a hybrid between the Kestrel and Sparrow Hawk, give various comparisons in detail with the *Kestrel*.

In the unknown Hawk on the first, second, third, and fourth toes, the scutellæ number, respectively, eight, ten, twenty-two, and thirteen; in the Kestrel the numbers are seven, nine, sixteen, and eleven. In the unknown Hawk, from the anterior band of the wing to its tip, the length is seven inches and three-quarters; whereas in the Kestrel it is ten inches. In the unknown Hawk the distance from the tip of the wing to the tip of the tail is one inch and one-eighth; in the Kestrel it is two inches. In the unknown Hawk the longest feather in the wing is the third, whilst in the Kestrel the longest quill feather is the second in the wing.

The claws of the unknown Hawk are pale horny white, whilst the claws of the Kestrel are black; the claws of the former are much shorter, much less incurvated, and much more slender, than the claws of the latter. The tail of the unknown Hawk is five inches in length, whilst that of the Kestrel is seven and a quarter.

The tarsi of the unknown Hawk measure one inch and three-eighths, whilst the tarsi of the Kestrel measure one inch and three-quarters. The first, second, third, and fourth toes of the unknown Hawk measure, respectively, three-fourths of an inch, three-sixteenths, one inch and three-eighths, and one inch; whilst those of the Kestrel are nine-sixteenths of an inch, three-fourths, one inch, and thirteen-sixteenths; of the male Sparrow Hawk, five-eighths of an inch, three-fourths, one inch and a half, and seven-eighths; and of the female Sparrow Hawk, five-eighths of an inch, three-fourths, one inch, and thirteen-sixteenths.

With regard to the *shortness* of the claws in the unknown Hawk, as a consequence, in your opinion, of its being the produce of two tame or domesticated Hawks, I beg leave to differ from you. In the first place, the claws of birds kept in confinement invariably *lengthen* so much that they frequently require to be cut shorter; and I am equally sceptical as to any influence exercised over the claws of the young Hawk, although the claws of the parent were entirely worn away.

If this Hawk be simply a "variety," or even a "hybrid," why not allow the *Mertin* to have a share in his production?

Leeds, January 11th., 1856.

RICHARD HOBSON, M.D.

The Querist.

WILL any of your numerous readers give me authentic information as to the breeding and rearing of Foreign and English birds in confinement. A friend of mine who has a very large Aviary has been quite unsuccessful in this respect. The St. Helena Waxbills have constructed several nests, but they have never laid eggs. More than one species of these small passerine birds have been very busy with the business of nidification, and have done some mischief to the shrubs and plants, by breaking off the slender tops wherewith to construct their nests, but no sooner is one finished, than they commence another. I have heard that the Nightingale has been known to breed and rear young ones in confinement, but I am very doubtful of it, as these birds could not find a sufficiency of insect food for their nestlings. Bechstein states that the Siskin, Goldfinch, and several others, will breed regularly, even in a room, but my experience is directly contrary to this. Whilst on this subject, I should like to hear from your correspondent, who stated some months since that an Emu, belonging to

a friend of his, was sitting upon a clutch of eggs, whether the young were hatched and reared.* I may mention that the Warbling Parakeet of New Holland will breed in confinement. At a dealer's near the London Docks, I saw several nests containing both eggs and young; and I have been told that the bird-dealers in Paris breed them regularly for sale.—J. S. WALKER, December 11th., 1855.

In an old edition of that curious and entertaining work of Bellamy's, "Spectacle de la Nature," occurs the following interesting account of a battle between a Spider and a Fly:—The insect generally known by the name of *the ravenous caterpillar*, whose principal food is the leaves of the elm, sometimes produces a large Fly that will join battle with the Spider. The intrepid Fly in a moment rudely attacks the Spider, who lies in ambush in the centre of his web; down falls the Spider alarmed at the shock, but spinning with all his might. The Fly takes the advantage of confusion, gives him no quarter, drags him upon the ground, and breaks his legs. After this, fierce with resentment, he takes a tour round his adversary, with intent either to secure him, without running the hazard of a second engagement, or to testify the joy he conceives on the conquest gained over the implacable enemy of his whole species. When he has thus wheeled *three* times round his captive, he fastens upon him, and conveys him into the air. I am curious to know the name of this ravenous Caterpillar, and the heroic Ichneumon Fly which treated the Spider in the same way Achilles did the unhappy Hector, when, after conquering and disarming his foe, he played the tyrant over him, and conveyed him to his tent.—SIDNEY STYLE, Brighton.

Answer to T. G. Bonney's Query in "The Naturalist" for December.—Honey-dew is the name given to the gummy coating found on the leaves of trees and plants, and is nothing more than the excrement of the insects called Aphides, of which the most familiar examples are *Aphis quercus*, *A. fabæ*, and *A. mali*, all of which I have seen at different seasons. If writing paper be placed under the leaves of the plant on which the Aphis is feeding, it will become as thickly covered as the leaves. The fecundity of this species is very great. Réaumur proved by experiment one Aphis to be parent of 5,904,900 descendants. The Aphides were thought by the old writers on Natural History to be produced from a plastic fluid voided by Ants, from the circumstance of their always being found where Ants were numerous. (See Gôdart ii., Exp. 22.)—CHARLES FRYER, 83, Rumbold Street, Manchester, December 5th., 1855.

"Hips and Haws."—What are Hips?—F. O. MORRIS, Nunburnholme Rectory, December 22nd., 1855.

* The writer will see this *quere* noticed by anticipation in the present number.—F.O.M.



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THE VOICES OF BIRDS.

BY O. S. ROUND, ESQ.



IN wandering among sylvan solitudes, it has always been my delight to be a silent observer of the ways of nature's sweet choristers, and many a delightful hour have I thus spent, far from the din of population, when the warm sun of early summer shed a delicious fragrance and a soft green light amid the branches of the oak or beech, whose callow leaves formed so refreshing a medium between the eye and the brilliant beams of the bright orb of day. At these seasons there might be said to have been a full "band" of sweet untaught music; but, besides the song of the pretty feathered performers, their voices were no less a subject of attention. Gilbert White has some excellent remarks upon this matter, and, if I mistake not, speaks generally as well as specially, and indeed, no one who has ears open to what passes around, can have failed to be struck with the language of the feathered tribes.

That all animals have some mode of communicating with each other, there can be no doubt; of course we must ever remain ignorant of its true nature and extent, but the fact is palpable enough, and known to every one. Thus, cries of defiance, menace, or endearment, are common to all; and even the little glow-worm "hangs out her lamp" as a kind of hieroglyphic invitation to her mate. Animals, however, compared with birds, are not rich in language, properly so called, and the neigh of the horse, the bark or snarl of the dog, or the mew of the cat in its varied phases and intonations, is about the apparent extent of their vocal powers. With birds it is different, for, by the least observation, it will be seen that their colloquial powers are very great. Let us just instance domestic poultry, who are certainly not in any sense singing birds, and see how, from the rising to the setting of the sun, their conversation continues. First, honest chanticleer no sooner snuffs the morning air, than he proclaims the fact in a loud voice, that seems to say "It is light again, why be ye there slumbering?" then there is the cackling and commotion attendant upon such early rising; no movement is taken without a loud proclamation of the event, as if the excitement was too great to be passed by in silence. Then begins the business of the day; the dewy grass is explored for stray worms and spiders who are basking on their floating cradles in the early beams, or any luckless entomological specimen that shews its head above ground; and when the dunghill monarch chances to find some uncommon prize, how he exults over the capture, and calls his *Harem* around him, to share in the repast. Then there is what is called the "prating," said to be a forerunner of laying, and a multitude of sounds, all modifications of a croak or a scream, which is sometimes so singular that I have been

startled by it, and have been at first at a loss to account for the sound. Then, if a large bird happen to fly past, what a significant cry of warning the cock utters; and how all the stray hens and chickens immediately take shelter; this is so direct in its character and effects that there is no mistaking that it is understood as well as if it said "Beware, a Hawk is near," or any other analogous sentence of warning. Then there is the rejoicing when the egg has been laid, in which the cock and sometimes the other hens so readily join; and last, but not least, the fuss and arrangement and the "talk" that is going on whilst the arrangements for the night are being made; truly it is worthy studying, and I have often done so with as much entertainment as curiosity.

And this reminds me that this cry of warning is, I think, the commonest portion of the conversation of birds. Listen to the loud cries of all small birds when a Hawk is in the vicinity, particularly of the Swallow tribe; call to mind as you walked by the hedge-row in summer how the harsh chatter of the Whitethroat sounded from the thickness of the brake, and how the inward note of the Bullfinch was heard amidst the evergreen foliage. The Common Sparrow has a peculiarly warning cry, short and brief as it is; and I have often remarked how almost certainly you may know whether it is a wet morning, before you open your shutters, by the peculiar clamour which these birds make on such occasions; it is not easy, of course, to discover why this is, but it has an uncomfortable sound, as if they were very ill at ease, and disliked their tails getting so very wet; for, be it remembered, all moisture runs down them, and I have often shot birds just after a wet day, when they were as dry as bones—except the tail. In fact from the time the bird breaks the egg this language is kept up, and it is notorious how the return of the mother to the nest is welcomed; next, what cries of rivalry and anxiety are heard, faint though they be; and next the gradually subsiding sound that betokens as much as anything can betoken, that the morsel has been received, and has given satisfaction.

There is another thing which, to the observer of nature, is as well known as all these, namely, the difference which is perceptible in spring from other seasons in the "voices of birds;" this, of course, is almost wholly confined to our native birds, for the others are gay gentlemen, who only, with us, revel in the sunshine; and therefore we know little or nothing of their winter habits, that is in a wild state; whilst those that are strictly ours, we have an opportunity of watching, if we feel so disposed, at all seasons. The wary Sparrow, the taciturn Greenfinch, the Golden-crowned Wren, and every songster with which we are familiar, have spring notes and manners, springing from that mysterious influence which domestic cares and objects so unerringly excite; and upon this it is quite unnecessary to dilate.

Again, the voices of birds are very descriptive of their various characters. The soft inward notes of the fruit-eating and insectivorous birds proclaim their harmless habits, while the discordant notes of others point them out at once, either as predaceous or so in a modified degree. It is remarkable that amongst water-birds there are no songsters; as if the murmuring of the brook, or the roar of the ocean ought not to be broken by any other sound. It is true there is the Reed Wren, or *Salicaria*, a "sweet polyglot," as Gilbert White aptly calls it, and the Water-pyot, which have sweet inward "trillings;" but when we come to the Ducks, Gulls, Terns, and Tringæ, we all know very well what sort of music they make; but still each of them has its "voices" too; and the common Ducks and Geese of domestication, if watched, will be found to furnish as good an example of my proposition as the *Gallinæ*; and so would probably many more kinds, had we the same opportunity of observing them. The Swan is said to sing, but when I first heard the Hooper or Wild Swan, I paid it the very bad compliment to mistake it for the turning of a rusty hinge.

The song of birds, that charming attribute which distinguishes them from all other creatures, the human race not excepted, I shall perhaps speak of hereafter, but for the present shall content myself with these observations.

Pembroke Square, Kensington, February, 1856.

A CHAPTER ON INSTINCT.

BY THE REV. F. O. MORRIS.

(Continued from page 60.)

THE Gasteropods, or cuttle-fish, still more advanced, endowed with something approaching to a brain, are enabled to move towards an object as if with curiosity, and if alarmed by it, are to be seen suffused with a blush of red, and then they eject the contents of an ink-bag, which Nature has furnished them with for a protection, and hide themselves from the observation of the enemy that they dread.

A step farther in the scale of creation we meet with the class of star-fishes. These give the first manifestation of a true nervous system, for though apparently sluggish, and devoid of all intelligence, they display an instinctive sagacity in choosing and seeking for their food. So also the common sea-hog, sea-egg, or echinus, though seemingly destitute of every sense, and unable either to see or hear, will ascend up and descend into the trap set to catch crabs, and when it wishes, will ascend again to the bait, and choose that which it seems to prefer.

It would appear to be a certain fact that many animals have nerves of

sense altogether different from any which man possesses, and which he therefore can form no idea of. The migratory impulse may be an instance of this, and from some capacity of knowledge hidden from us, the pig, as before observed, carries straw in its mouth before a high wind, as if conscious that it needed to shelter itself better, and the cat washes her face when damp weather is approaching; and both of these not only many hours at least before the actual change takes place, but many even before any indication of it appears to our own less keen foresight.

Very possibly, indeed, many of the creatures themselves may be unaware of any meaning or motive in their own actions, but in other instances the contrary is the case, as proved by a preparation for a change of place. Even we ourselves perform some actions mechanically, and without the exercise of the will; as, for example, in swallowing, we exercise choice in taking food, but none in swallowing it, after once it has come in contact with that part of the throat called the Isthmus faucium. Thus, the oyster opens its shell at the flow of the tide, and shuts it against any object that comes in contact with it; and thus the boa-constrictor must go through a certain routine in swallowing its food.

In coming to the higher class of living beings, it must be remembered that the organizations which alone are possessed by the inferior creatures are not left behind—they are only added on to by new tissues, being supplied seriatim in addition to those possessed by the lowest order in creation. There is a progressive scale in the order of Nature, although it be true at the same time that there are some animals which stand out, as it were, from the line, exhibiting an approach to other creatures even of a different order. Thus the feet of the Kangaroo exhibit a visible approach to those of a bird; and again another animal, the Ornithorynchus has an actual bill, resembling that of a duck; a species of reptile, too, so to call it, the *Lepidosiren annecteus*, partakes at the same time so much of the nature of a fish as to leave it uncertain to which class it belongs, only that its going into a torpid state, enveloping itself in the mud, shews that it has an affinity to the former class.

But to proceed to illustrations of the varied instincts of some few of the different animals placed higher in the scale of creation than those I have already spoken of. Some actions vary with the age of the animal; others are chronic, and distinctive of the species.

Many of these are so striking, that some have gone so far as to assign positively to animals an undying soul, on the strength of the text before referred to; but whether this be so or not, a point we may not too curiously inquire into with effect, it does seem that some animals of the higher ranks of creation, are, beyond all question, able to exercise what we have no name for, if we do not call it a reasoning faculty. Locke, the

celebrated author of the "Essay on the human understanding," says, "It seems as evident that some of them do in certain instances reason, as that they have sense, but only in particular ideas, just as they received them from the senses. They are, the best of them, tied up within narrow bounds, and have not, I think, the faculty to enlarge them by any kind of abstraction." The author of the "Natural History of Animals," asserts of them that their actions are "performed with a view to consequences, the result of a train of reasoning in the mind of the animal."

'This every one of any observation must corroborate, while he allows, with the author just referred to, that they are "remarkably deficient when compared with those of men; that they cannot take so full a review of the past, nor look forward with so penetrating an eye to the future; that they do not accumulate observation on observation, or add the experience of one generation to that of another." Another writer of eminence says, "We shall readily allow that some of the inferior animals seem to have perception of particular truths, and, within very narrow limits, the faculty of reason."

Instinct has been defined to be a certain power "by which, independent of all instruction or experience, without deliberation, and without having any end in view," beyond an immediate one, "animals are unerringly directed to do, spontaneously, whatever is necessary for the preservation of the individual, or the continuation of its kind." On the other hand, "Reason," says Dr. Reid, "has two offices, or degrees; the first is to judge of things self-evident; the second, to draw conclusions that are not self-evident from things that are." 'That all animals have instinct is a plain matter of fact.

Now do certain animals, in addition to such, their instinctive actions, perform any which may be called rational actions? Do they draw conclusions from certain facts, and act on the experience that they have gained, and that even, perhaps, in a way which may be opposed to their instinctive notions? Might not volumes be written on the apparently reasoning actions of the Elephant, the Horse, and the Dog? Nay, is there not much to be said on this head, even of the Ass, the Hog, and the Goose—animals whose very names are by-words for expressing stupidity and simpleness?

(To be continued.)

A DAY'S CONCHOLOGISING ON THE ISLET OF HERM.

BY W. V. GUISE, ESQ., F.G.S.

Who knows anything of the little islet of Herm? Its very name is omitted from the lists of the Channel Islands in many of the elementary

geographies. Yet is Herm a very notable islet, some three miles in circumference, abounding in interest to the antiquary, and as forming one of that remarkable Archipelago of primitive rocks, comprising Alderney, Guernsey, Serq, and Jethou, not wanting in claims to special and separate consideration, but especially noticeable in respect of the field it offers for the study of Marine Zoology, in which regard it is not surpassed in interest by any spot of similar extent in the British dominions.

In the summer of 1854, in the course of a ramble amongst the Channel Islands, I passed two days at Herm, (amongst the most enjoyable I have ever spent,) in company with a friend, who like myself, was bent upon investigating the *"treasures of the deep."*

I must premise, by way of hint to those who may come after, that our accommodation was somewhat of the roughest. Half a dozen rude stone cottages suffice to shelter the fisher population of the island, two of which adjoining each other, under the proprietorship of Mr. Touzeau, offered, at that time, the only accommodation to be found for visitors. This was our head-quarters, and comprised a small and scantily-furnished sitting-room down-stairs, and a double-bedded sleeping apartment above; not luxurious, but still sufficient for our requirements; nor should we have had much to complain of, had the commissariat been placed upon a somewhat better footing; but, being dependent upon Guernsey for supplies of every description, if the weather is from any cause unfavourable, these supplies are absolutely cut off, and there is nothing left in that case but to dine with Duke Humphrey, or to make as good a dinner as you can of the produce of the fishermen's nets; which latter was our alternative; and although, as Horace says,

"Jejunus raro stomachus vulgaria temnit,"

still, boiled bass and salt is rather vapid food. Milk, too, was hardly procurable, a small teacup-full morning and evening being all that the sole farmer in the island could supply; and as our host's coffee was extremely acrid, we should have been hard put to it in the matter of beverages had he not fortunately possessed a good stock of 'bitter ale' in bottle, with the aid of which we made shift to get on tolerably well.

It will be seen from this that while under the roof of 'old Touzeau,' we did not lead the life of Sybarites, but our time was so fully and agreeably employed while in-doors, in examining, cleaning, and arranging the spoils collected during the day, that our gastronomic deficiencies came to be regarded as matters of very insignificant concern.

We had selected for our visit to Herm the period of the lowest spring-tides, and were gratified on the first morning after our arrival by seeing the sea-bottom laid bare to a considerable distance from the coast, upon which

the whole population of both sexes and of all ages, had turned out with their baskets on their backs, to take advantage of the occasion to seek for shell-fish.

Touzeau was our guide, and a very useful and intelligent one we found him; for having been in the habit of accompanying some of our most scientific and persevering marine naturalists in their researches upon these coasts, he was well acquainted with the shell rarities and their habitats. He at once led us away from the muddy flats immediately before us, to a rocky point nearly a mile distant, towards which all the fishermen and women likewise directed their course.

Having arrived at our hunting-ground, we proceeded at once to turn over the stones and large pieces of rock which lay profusely scattered around; and none but an enthusiastic naturalist can understand the glorious excitement of stone-turning upon a *rich* coast, such as this. It was no mere child's play, either, for many of the rocks were of a size to require our united forces to move; moreover, we were always mid-leg deep in water, and sometimes, in wading from one place to another, nearly up to our waists; but we were rewarded by perpetual discoveries of novelties or rarities, or else of some unusually large or finely-developed specimen, and loud and eager were the shouts from one to the other as each successive block was turned over, and fresh treasures displayed themselves to the eye and grasp of the delighted seekers.

Here were the large tropical-looking Ear-shell, (*Haliotis tuberculata*), in abundance—a Mediterranean form, of which the Channel Islands constitute the northern limit; these adhered to the stones with marvellous tenacity, and were only to be dislodged by a sudden and severe blow. Under the name of "Ormers," they are much sought for, and largely consumed by the inhabitants of the Channel Islands, who esteem them excellent meat; but to us they proved tough, strong, and disagreeable, though cooked by Touzeau's fair daughter after the most approved fashion.

Besides these, we found adhering to rocks and stones, *Anomia ephippium*, and *striata*, *Acmæa virginea*, *Arca lactea*, and *tetragona*, *Emarginula reticulata*, *Fissurella reticulata*, *Chiton discrepans*, *Trochus exiguus*, and *striatus*, *Murex corallinus*, (this latter in great abundance,) and lastly, that most peculiar and interesting bivalve *Galeomma Turtoni*, the desire of seeing which in its natural habitat, had largely influenced us in selecting Herm for our conchologising ground. It is found but sparingly, and only at one point on the coast, which, without the guidance of Touzeau, we should probably never have discovered; as it was we did not obtain more than half a dozen examples, none of which were large: but it was most interesting to observe the mollusk adhering with expanded valves to the under side of stones, its white mantle covering the shell externally, and

giving it a very peculiar, and, (if I may use the expression,) *Bullæa*-like appearance.

Concealed beneath stones we found two individuals of *Octopus vulgaris*, or Common Poulpe, called by the fishermen "blood-suckers;" they seek them for bait for congers; and strange tales are told of narrow escapes from death by those who, having incautiously inserted their hands beneath rocks, in quest of the bait, have been detained by the arms and sucking-disks of the *Octopus*, until their cries have drawn assistance barely in time to rescue them from the returning tide.

The whereabouts of these *Octopi* was revealed to us by the heaps of shells at the mouth of their burrow, whose owners had furnished a meal to the rapacious Ogre within. When drawn out of their place of concealment, they shuffled about in a strange awkward fashion with their long arms, and rolled their great eyes in a very hideous and distracted manner. Pliny has a great deal to say concerning these *Polypi*, as he calls the Cuttle-fish tribe, in the Ninth Book of his Natural History, chap. xxix., from which I extract the following account, taken from the quaint translation by Philemon Holland, as bearing especially upon what I have just related:—

"Of all soft fishes they only go out of the water to dry land, especially into some rough place, for they cannot abide those that are plaine and even. They live upon Shel-fishes, and with their haire or strings that they have, they will twine about their shels and crack them to pieces; wherefore a man may know where they lie and make their abode, by a number of shels that lie before their nest. And albeit otherwise it be a very brutish and senslesse creature, so foolish withall, that it will swim and come to a man's hand; yet it seems, after a sort, to be witty and wise, keeping a house and maintaining a familie; for all that they can take they carry home to their nest. When they have eaten the meat of the fishes, they throw the empty shels out of dores, and lie, as it were, in ambuscado behind, to watch and catch fishes that swimme thither."

(To be continued.)

A SECOND MEDLEY.

BY W.

WORM PIPE FISH, (*Syngnathus anguineus*).—This fish was rather plentiful here during autumn. I received the first specimen on the 8th. of September; since that time I have obtained as good as a dozen. The longest measures eleven inches and a half. The colours vary from a pale olive green to a very dark green; in a few it was almost black. When at

rest in a basin of water they lay with the tail twisted round the body near the head.

Bib, (*Morrhua lusca*), has been rather plentiful.

Cook Wrasse, (*Labrus mixtus*).—A specimen of this rare and beautiful fish was caught by hook by a Maeduff fisherman on the 8th. of November, and kindly presented to me. It was of small size, its length was ten inches and a half, and its depth two inches and seven-tenths; from the nose to the dorsal fin it measured three inches and three-tenths, to the eye one inch and a half, and to the vent five inches and seven-tenths. It is impossible to do anything like justice to its colours by word painting. A little below the eyes was a band of blue, shaped somewhat like a horse-shoe; between the eyes was a straight one, and a little behind this second a third; about half-way between the last line and the dorsal fin was a large round spot of blue. The cheeks were striped with blue and orange; along the sides were numerous blue spots, that appeared to have formed a continuous line when in life. The dorsal fin orange, with a spot of blue about an inch long on the anterior part, and tipped with blue; the tail was blue; pectoral fins orange with a spot of blue at the root, ventral fins orange with a spot of blue on the lower edge. The eyes were covered with large inflated bags.

Unctuous Sucker, (*Liparis vulgaris*).—On the 15th. of November, a specimen of this fish, rather rare here, was brought me by a boy who was foraging for me, after the boats had arrived. It was beautifully marked.

Porbeagle, (*Lamna cornubica*).—A specimen of this Shark was caught by a boat belonging to Maeduff, on November 21st. It had seized the cod-hook, and feeling itself caught, had struggled to get free, but it became more and more entangled; when taken into the boat it was quite dead. Some of its dimensions were as follows:—Length from nose to tail six feet, from nose to eye five inches, to ventral fin one foot eleven inches, to dorsal fin two feet five inches, to nostril three inches and a half; girth three feet ten inches and a half, height of dorsal fin one foot one inch and a half, length of pectoral fin one foot five inches; upper lobe of tail one foot nine inches, lower one foot three inches. When Mr. Edward opened it he found in its stomach a cod-fish cut in two, the skeleton of another fish, and a good many other bones.

Lemon Dab, (*Platessa microcephala*).—On November 23rd., was brought me a specimen of this rather rare fish. Its length was seven inches, and its depth two inches and nine-sixteenths, exclusive of the fins, which each measured three-quarters of an inch. The anal was an inch and a half long.

So much for fish; the remainder of our remarks shall develop themselves into what relates to two birds and a moth.

Crossbill, (*Loxia curvirostra*.)—Being on a visit to Keith, I called on Mr. J. Clayton, Druggist, who employs his spare hours in bird-stuffing; and in his collection found two Crossbills that had been shot near Keith. They are rather plentiful near Dufftown, and they have been observed near Banff, so that Banffshire may be set down as well supplied with them.

Nightjar, (*Caprimulgus Europæus*.)—Well do I remember the occurrence of this bird near Keith, many years ago, when I was a boy. In the still evenings, when out at play, suddenly would the jar of the bird startle me, and bring a sort of fear over me; and I can look back with a kind of pleasure on the superstitious dread I had of it. From what I felt then I can form a notion of how the bird has been elevated to so high a place in popular superstition.

Unicorn Moth, (*Sphinx convolvuli*.)—A specimen of this Moth was caught by Dr. Bidie, Cullen, in one of the windows of the F. C. School, Port-nockie, about the end of August. Another was caught about the same time in Maeduff, and is now in my incipient collection, of which, perhaps, more afterwards.

Maeduff, January 19th., 1856.

THREE DAYS IN CAERNARVONSHIRE.

BY J. H. DAVIES, ESQ.

A Paper read before the Thirsk Natural History Society.

(Concluded from page 64.)

RETURNING to our inn, we engaged a guide to take us up Snowdon at an early hour the following morning. The morning arrived, and the guide awoke us at the appointed time. I looked out of the window, but where we had hoped to see golden Aurora fringing the eastern hills with the glorious beams of her brightness, were huge clouds of mist, choking up the valleys, and concealing the mountains from view. At seven o'clock it was the same, with the addition of a thick drizzly rain, and we were reluctantly forced to give up the idea of the proposed ascent; but we thought of the pass of Llanberis, which otherwise we should have missed, and were consoled. A month might very well be spent in exploring the rocky mountains of the vicinity.

At the end of Llyn Peris a quantity of *Dicranum squarrosus* was noticed in addition to that found in the other locality. By the time we reached here the rain had ceased, and when we arrived at the antique village of Llanberis, the sun broke out from its covering of clouds, and under these favourable auspices we entered the Pass. It is a perfect chaos

of rocks, "variously up-piled," and tumbled about in the most picturesque confusion. A scene of such a desolate character, and at the same time so grand and magnificent in its loneliness can scarcely be surpassed. From the path, winding as it does, sometimes at the bottom of the rocky gorge, and sometimes along the mountain side, exquisite views of the different features of the Pass are obtained; huge grey boulders form the predominating characteristic, the monotony of which is occasionally broken by some silver streamlet tumbling amongst the rocks. For the whole length of the Pass, a distance of three miles, not a tree or shrub is to be seen, but in many places—

"—o'er the jutting rocks soft mosses creep,
Or coloured lichens with slow oozing weep."

In the rivulet near the stupendous rock, called Ynys Hettws, (said to have fallen from the side of Y Glyder Fawr,) *Fontinalis squamosa* occurred in large masses, which darkened the stream, and was much more luxuriant than we meet with it at home. At the same place *Grimmia Donniana* (in fr.) grows on the rocks, and *Diphyscium foliosum* is very plentiful throughout the Pass: specimens were procured with stems an inch long. *Ptychomitrium polyphyllum*, *Racomitrium lanuginosum*, *fasciculare*, and *heterostichum*, *Leucobryum glaucum*, *Campylopus longipilus*, *Andræa alpina* and *Rothii*, *Aulacomnion palustre*, *Bartramia fontana* and *arcuata*, and *Hedwigia ciliata* are comparatively common. We had the pleasure of increasing our store by the addition of *Bryum elongatum*, which grows in the crevices of the rocks near the summit of the Pass, (Gorphwysfa;) and close to the same place we also obtained some fine examples of *Andræa alpina*, two inches and a half long, from a wet rock literally covered with this beautiful alpine species.

From Pen y Gwryd the tourist has a series of views of matchless beauty; on the right the lovely Nant Gwynant, or the Vale of Waters, (the route to Bedgellert;) on the left and behind the cloud-capped mountains, and in front, the Vale of Mymbyr, through which winds the road to Capel Curig, *Bryum elongatum* and *Grimmia Donniana*, which we have before noticed, were found in large quantities. Midway between Pen y Gwryd and Capel Curig we had the pleasure to meet with examples of *Bryum alpinum*, which were rendered doubly valuable by the presence of fruit. Passing through a tract of country—

"So wondrous fair the whole might seem
The scenery of fairy dream,"

before long we came to Capel Curig, halted a short time at the inn for refreshment, and afterwards had a pull on the Llyn, from which we had a fine view of Snowdon, and then proceeded on our route, intending to walk to Bettws y Coed, and spend the night there.

From Pont Gyfng we had a beautiful view of the Lugwy, which was tumbling in cascade-like descents over the miniature crags that embarrassed its progress, and noticed *Encalypta streptocarpa* in a dry and parched condition on the walls.

“And now the orb of day had reached
Its maximum on high,”

shining with tropical fervour, and save a group of massive cumuli gently floating on in the distance, the sky was devoid of clouds, so that we were glad to take possession of a car which was passing. We stayed to see the Rhayadr y Wennol, (Swallow Waterfall,) which had a fine and imposing appearance, enhanced by the delightful scenery with which it was surrounded, and brought away some specimens of *Hypnum flagellare* as a *souvenir*. As the car was bound for Llanrwst, we determined to make the most of the opportunity of getting forward, and arrived at our destination at six o'clock.

On the Denbighshire bank of the Conway we gathered *Cinclidotus fontinaloides*, but the specimens were not suitable for examination. We visited the antiquated church, and viewed the curiosities contained therein. We breakfasted at four the following morning, and started in right good earnest for Conway. *Bartramia fontana* was found in good fruit, but we noticed no species which have not before been mentioned. By nine o'clock we reached Conway, and spent a short time in observing the different objects of interest which it presents. The Castle and Suspension Bridge were lost to view as we turned an angle of the road on our way to Llandudno, which we reached in time to jump on board the steamer which passes there about eleven o'clock, and arrived in Liverpool again at three.

Thirsk, November, 1855.

MOTH HUNTING; OR AN EVENING IN A WOOD: BEING TWO LEAVES FROM THE LIFE OF A NATURALIST.

BY MR. THOMAS EDWARD.

LEAF I.

Now you must know that, although neither an ant-eater, a bat, a chameleon, a swallow, a bee-hawk, nor yet belonging to the genus *Muscicapidæ*, still I am somehow or other remarkably fond of insects of every description, and have always been so; except, it may be, for three or four different kinds, which I really must say I do not care much about; and in fact never did, since first I had the least idea of them. You must also understand, that is, if you do not already know, that some of these

fragile and fairy-like creatures fly by night as well as by day; so that, to get acquainted with, as likewise to capture them, you must become a nocturnal as well as a diurnal and frequent visitor to their various and respective abodes.

But, besides being thus so passionately fond of insects, I am also particularly partial to four-footed, aye, and to two-footed animals of every sort. In fact, and in short I have, and it would seem that I have been born with it, a most inordinate, and perhaps unexampled, either in this country or in any other, predilection for everything of this kind, whatsoever be the number of their feet or legs, or whether they have any or none at all; all is one to me, providing they are of Nature's handiwork.

Accordingly, and one evening in particular, just such a one as I could have wished for, and one which gave the highest promise of an abundant 'tak,' being fair and mild, away I strolled, with collecting box under my arm, my phial of chloroform in my pocket, and heart as light as a feather, in the hope of being in some measure able, at least for the time being, to allay my extraordinary, continual, and I may in all truth say, insatiable craving for these things; as also to see what I could see, and hear what I could hear. It was rather beyond midsummer than otherwise, and as usual I was alone, that is so far as regarded my own species. Glad that my daily task was done, and that my toil-worn body was again for a little from torturing labour free, O how merrily I bounded along, never a king so happy, and ever and anon snapping at my prey as they issued from their sylvan and grassy homes—harbingers of the coming night—in the hope and with the intention, no doubt, like myself, to enjoy the beauties of eventide.

My *beat*, for I had now taken up one that I might the better secure and watch my game, lay along a narrow foot-path of considerable length, but of course, the portion I trod, that is, backwards and forwards, was only perhaps from a hundred to a hundred and twenty yards long. It was in a woody dale, a most romantic and secluded spot, and close by a river's side, whose soft and balmy-like murmurings mingled with the evening songs of the joyous birds, particularly that of the mellow Thrush, which, as he poured forth his farewell requiem to the departing day, fell gently and sweetly on the listening ear.

The sun went down, and twilight having spread her mantle of dark grey, the voice of music ceased. The Swallow, (*Hirundo riparia*,) flew to its nest, the lark to his mossy bed, the butterfly disappeared, the hum of the bee was heard no more, the grasshopper had sounded his last chirp for the day, and all seemed to have gone to rest and repose, except the river, myself, and the nocturnals which were now beginning

to peep from their hiding-places in considerable numbers, but still I kept my busy path. Now moving slowly, now a little quicker, now a dead halt or nearly so, and now--no, not yet—it is gone; but now, yes now, a run, a run, and a swoop; but no, it is gone—yes, fairly off: but here is another. Come away my fine fellow! O you may dart and dance as you like, but I'll snap you as soon as you come a little nearer; so here goes, and down he falls; a specimen is boxed, a drop or two of the drowsy liquid and all is right; the insect sleeps its last slumber, and as perfect as if still in nature's hands.

Away I go again; now stooping, now erect, now bending forward, and stretching out a neck as long as any gander's, and with strained eyeballs peeping here and peeping there, now to this and now to that side, and now turning suddenly round, as if fire or something worse had been at my heels; and another run, then a halt. It has gone, no, see, there it is again; yes, and see how it goes, how it bobs up and down; but I must fly, so away I run again, with arms going round like the wings of a windmill; and—bravo; another captive is boxed, pinned, and dosed, and as perfect as the last.

So on I went, and all the same time listening to the doleful and melancholy wailing of the Owl, the spinning-wheel-like *birr, birr*, of the Nightjar, (*Caprimulgus Europæus*), and the occasional barking of the fleet and lightsome little Roe, the pride of our lowland woods, as they now, too, had stealthily crept out of their secret retreats to pursue their night's peregrinations, and now and then all the while boxing another culprit. In this fashion, time, as it always does on such and similar occasions, passed rapidly—too rapidly but pleasantly—away; nay, flew unconsciously, as it were, so that the shades of night were now fast settling down, but yet I thought not of home or giving up the chase. I still could in some measure see the objects of my solicitude and search, as they passed between the branches of the trees, and betwixt me and the sky; or dropped from the luxuriant foliage overhead, or darted like an arrow or shadow by, or lightly fanned the tops of the long and waving grasses and graceful ferns—all pursuing their little joys. Some to sip the nectar from the juicy flowers, and others to woo their fond and expectant mates, and hold their sweet embraces until morning's dawn.

Thus far and all went well, but a change was about to come over the scene. I had succeeded wonderfully, having managed to secure a pretty large number of first-rate specimens, amongst which I found a good many of the rarer species, such as the Oak Egger-Moth, (*Lasiocampa quercus*), Unicorn Hawk-Moth, (*Sphinx convolvuli*), Cream-spot Tiger-Moth, (*Arctia villica*), Angle Shades, (*Phlogophora meticulosa*), Beautiful China-Mark, (*Hydrocampa nymphalata*), and Green Silver-lines, (*Hylophila prasinana*), etc., and some

new species; and expected from the enchanting beauty and stillness of the night to have procured many more. But no!

Doubtless you have heard the old adage, and may perhaps know something of it experimentally yourself, that "the course of true love never did run smooth." Now there is nothing more applicable to those in pursuit of Nature than this. I have experienced it often, and that too, although not at the time running after or hunting any of the fairest and sweetest gems which ever smiled on man, or creation ever exhibited upon on this low earth, and so it happened again that evening.

Stepping slowly but watchfully along, and whistling, or rather croning to myself, "There's nae luck about the house," etc., rejoicing, as it were, over my good fortune, and with hat in hand ready for another swoop, when something large, very large, and tremendously long, on the path right in front, and coming in my direction, caught my astonished sight. Well, if every limb did not shake like an aspen leaf, and every bone in me did not crack and quake with downright fear, as I beheld the hideous-looking beast. The whistling, as you may easily guess, instantly ceased, and coming to a stand-still, I could not help wondering as I beheld the moving mass drawing slowly it is true, yet steadily, towards me, what in the world the creature could possibly be; what grizzly apparition, or midnight monster, or unearthly thing it was, and how, or by what strange means it had come there. No, I am sure, positively sure, I had never seen such, or anything like such, a creature in all my life before. How long, how dreadfully long, it looked, and how shaggy. Why the great, big, and now in some measure common, though I am inclined to doubt fictitious, *Sea-Serpent*, seemed nothing at all to it in length and bulk—and still progressing towards me. What was to be done? or what could I do? I was totally unarmed—not so much as a sixpenny blade upon me. 'Tis quite true I possessed a good *piece*, but what of that? it was, and unluckily too, nearly two miles off, and could not, therefore, be called to my aid.

Pondering, being puzzled and almost bewildered what to do, and the monster still advancing, fear at last came to my aid, by whispering in my ear, "Fly, fly," an advice which I was about to put into execution, when courage, not being altogether dead, shouted, "No, no, stand like a man, and a true naturalist, and see the last of it." Aye, thinks I to myself, stand, and for aught I know, be worried alive, insects, box, and all, or perhaps torn to pieces, just according to the caprice of the brute. Well, no, I did not exactly faint, for if I had, I most assuredly should have been gone; but I freely confess I felt a little squeamish. It was now all but dark—dark for that time of the year—and I was still unarmed, and help, why help was entirely out of the question; so that if I did stand, and a hand to hand, or rather a hand to paw affair take place, I

would, as a matter of course, have to fight it out unaided and alone. Terrible though the alternative was, and courage having gained the mastery, and my senses and wonted composure returning, the affright wore off, and as I never had as yet seen the animal going at large in this country, either by night or day, that I was afraid of, or even thought of running from, the idea of doing so now could not be entertained for a single moment longer, especially considering, too, that the one in question might turn out a rarity, if not indeed a nondescript.

What, run, and not at least make an attempt at a capture? O fie! that would never do. What! disgrace the name of Naturalist by so cowardly an act?—No never! Well, I was now not only determined not to run, but to lay hold of, and secure it, if at all possible, whatever it was, and be the consequences what they might. Aye, and truly, if it did not turn out to be, as I thought it would, the Old Boy himself, or a resemblance, then in that case I of course would have made my feet my friends, and that, too, in the quickest and the shortest way possible; for the Parson of the parish says the further we keep from the Devil, and out of his way, the better. Now you see if we are, as I hope we all are, true Christians, we must believe his Reverence.

Accordingly, and with the view of ascertaining my intended antagonist's real form and true position, that I might the better arrange my mode of attack, I would now and again take another sly peep at him, to reconnoitre, as it were, to see if anything like *horns*, or a *cloven foot*, stood in the way; when lo and behold, instead of one, I beheld—beheld what?—why no fewer than three—three large and full Badgers, and not Devils, each a short distance behind the other, and the foremost only about sixteen yards from where I stood.

Banff, October, 1855.

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 66.)

HAPALE.

Hapale Jacchus, *Kuhl.* H. leucotis, *Less.* Jacchus vulgaris, *Geoff, Fisch.*
Simia Jacchus, *Linn.* Midas albi-
collis, *Spix.*
Hapale leucocephala, *Schinz.* Jacchus
leucocephalus, *Geoff.*

Hapale pencillata, *Schinz.* H. melan-
otis, *Less.* Jacchus pencillatus,
Geoff. J. pygmaeus, *Spix.* Simia
pencillata, *Humb.*
Hapale aurita, *Schinz.* Jacchus auri-
tus, *Geoff.* Simia aurita, *Humb.*
Hapale humeralifer, *Schinz.*

Hapale melanura, *Kuhl, Schinz.* Jacchus melanurus, *Geoff.* Simia melanura, *Humb.*

Hapale argentata, *Schinz.* Jacchus argentatus, *Geoff.* Simia argentata, *Schreb.*

Hapale Midas, *Schinz.* Midas rufimanus, *Geoff.* M. Tamarin, *Less.* Simia Midas, *Linn.*

Hapale ursula, *Schinz.* Jacchus ursulus, *Desm.* Midas ursulus, *Kuhl, Geoff.* Saguinus ursulus, *Hoff.* Simia ursula, *Humb.*

Hapale labiata, *Schinz.* Midas labiatus, *Geoff. Kuhl. Fisch. Humb.* M. mystax, *Spix.* M. nigricollis, *Spix.* M. fuscicollis, *Spix.*

Midas albifrons, *Schinz.* Simia albifrons, *Thunb.*

Hapale nigra, *Schinz.* Jacchus niger, *Pöppig.*

Hapale Rosalia, *Schinz.* Midas Rosalia, *Geoff.* Jacchus Rosalia, *Desm.* Simia Rosalia, *Schreb.* Leontopithecus Marikina, *Less.*

Hapale chrysomelas, *Schinz.* Leontopithecus ater, *Less.*

Hapale chrysopyga, *Schinz.*

Hapale leonina, *Schinz.* Midas leoninus, *Geoff. Kuhl. Humb.* Leontopithecus fuscus, *Less.*

Hapale bicolor, *Schinz.* Midas bicolor, *Spix.*

Hapale cædipus, *Schinz.* Simia cædipus, *Linn. Schreb.* Midas cædipus, *Geoff. Kuhl.* Jacchus cædipus, *Desm.* Cædipus Titi, *Less.*

Hapale chryssoleucos, *Natt.*

FAMILIA II.—PROSIMIÆ.

LEMURINI.

Lemur Catta, *Linn. Schreb.* Prosimia catta, *Less.*

Lemur mongos, *Linn.* Prosimia mongos, *Less.* Lemur melanocephalus, *Cuv.* Lemur prosimia collaris, *Griff.*

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Lemur micromongus, *Schinz.* L. mongos, *Linn. Schreb. Geoff. Desm. Fisch.* Prosimia micromongos, *Less.*

Lemur macromongus, *Schinz.* L. mongos, *Linn.* L. fulvus, *Fisch.* Prosimia macromongos, *Less.* P. fulvus, *Griff.*

Lemur Bugi, *Schinz.* L. anjouanensis, *Geoff.* Prosimia fusca, *Briss. P. Bugi, Less.*

Lemur rufus, *Griff. Audeb. Schinz.* Prosimia rufa, *Less.*

Lemur albimanus, *Griff.* L. mongos, *Geoff.* Prosimia albimana, *Less.*

Lemur Brissonii, *Schinz.* L. mongos, *Linn.*

Lemur albifrons, *Griff. Geoff. Schinz.* Prosimia albifrons, *Less.*

Lemur rufifrons, *Bennet, Schinz.*

Lemur ocularis, *Schinz.* L. nigrifrons, *Geoff.* Prosimia nigrifrons, *Griff.*

Lemur Frederici, *Schinz.*

Lemur Macaco, *Linn. Schinz.* Prosimia Macaco, *Less.*

Lemur ruber, *Commer. Schinz.* Prosimia erythromela, *Less.*

Lemur coronatus, *Gray.*

CHIROGALEUS.

Chirogaleus Commersonii, *Schinz.* C. major, *Geoff.* C. medius, *Geoff.*

Chirogaleus Smithii, *Gray.*

MYOCEBUS.

Myocebus pusillus, *Schinz.* M. palmarum, *Less.* Lemur pusillus, *Audeb.* L. minutus, *Cuv.* L. murinus, *Blain.* Cheirogaleus minor, *Geoff.*

SCARTES.

Scartes murinus, *Gray.* Lemur murinus, *Müll.* Otolicenus Madagascariensis, *Less.* Scartes murinus, *Schinz.*

Scartes rufus, *Schinz.* Chirogaleus Commersonii, *Vigors et Horsf.* Gliscebus rufus, *Less.*

N

MICROCEBUS.

Microcebus griseus, *Schinz.* *Cheirogaleus Milii*, *Geoff.* *Mioxicebus griseus*, *Less.*

Microcebus rufus, *Wag. Schinz.* *Galago Demidoffii*, *Fisch.* *Lemur murinus*, *Penn.* *Mioxicebus rufus*, *Less.*

STENOPS.

Stenops tardigradus, *Wag.* *Nycticebus Bengalensis*, *Geoff.* *Lemur tardigradus.*

Stenops Javanicus, *Schinz.*

Stenops gracilis, *Schinz.* *Nycticebus Lori*, *Fisch.* *Lori gracilis*, *Geoff.* *Lemur Ceylonicus*, *Fisch. Schreb.*

PERODICTICUS.

Perodicticus Potto, *Schinz.* *Lemur Potto*, *Linn.* *Nycticebus Potto*, *Fisch.*

GALAGO.

Galago crassicaudatus, *Geoff.*

Galago senegalensis, *Geoff.*

Galago Alleni, *Water.*

Galago Moholi, *Smith. Schinz.*

Galago Garnettii, *Ogilby.*

Galago minor, *Gray.*

TARSIVS.

Tarsius spectrum, *Geoff. Schinz.* *T. Daubentonii*, *Fisch.* *T. bancanus*, *Horsf.* *T. fuscimanus*, *Fisch.* *Lemur spectrum*, *Pall.* *Didelphis macrotarsus*, *Schreb.*

LICHANOTUS.

Lichanotus Indri, *Schinz.* *Lemur Indri*, *Schreb.* *Indri brevicaudatus*, *Geoff.* *Pithelemur Indri*, *Less.*

HABROCEBUS.

Habrocebus lanatus, *Schinz.* *Indri longicaudatus*, *Geoff.* *Lemur lanatus*, *Schreb.* *L. laniger*, *Linn.* *Semnocebus Avahi*, *Less.*

Habrocebus Diadema, *Schinz.* *Proptithecus Diadema*, *Benn.*

GALEOPITHECUS.

Galeopithecus variegatus, *Geoff. Schreb.*

G. volans, *Geoff.* *G. Temminckii?* *Water.* *Lemur volans*, *Linn.*

Galeopithecus undatus, *Schinz.* *G. volans*, *Pall.*

Galeopithecus philippinensis, *Water.* *G. macrourus*, *Temm.?*

(To be continued.)

Miscellaneous Notices.

Anecdote of the Horse.—It is interesting to observe how any very powerful feeling will arouse a wonderful amount of sense in the dullest and most stupid of animals. A curious instance of this came under my notice a short time ago. An old cart mare, belonging to a man in the village, that looked as if it had scarcely sense to do its work, and would certes be the last animal in the world one would expect to shew any powers of mind, had a foal this summer, and one day the old mare came galloping up the village to its owner's door, neighing, and seeming very uneasy. Its master noticing it, said, "Something must be wrong;" and he went out. The mare trotted off neighing, and then returned to him; so he followed her, and she led him to the mill dam, where he found her foal had fallen in, and was nearly drowned. Having recovered her foal, the old mare has relapsed into a most profound state of stupidity, though I always look at her with

a feeling of great respect, knowing how deep the love must be that could call forth such an unwonted energy of mind and promptitude of action.—E. E. H., Mickley, near Ripon, October 23rd., 1855.

Two Eagles shot.—Last week a lad, named Kenneth Macdonald, in the employment of Mr. Cameron Tallisker, Skye, whose exploits among Eagle cliffs we have before had occasion to notice, succeeded in shooting two Eagles, right and left. What makes the feat extraordinary, is that the birds are of different species, one being a White-tailed, or Sea Eagle, and the other a Golden Eagle.* Macdonald discovered them preying upon the carcass of a sheep; at his approach they rose simultaneously, and while mounting rapidly upwards he fired right and left, and brought both the birds down. The Sea Eagle is a magnificent specimen, perfect in every point, and measuring no less than seven feet three inches from tip to tip. The Golden Eagle was a younger bird; it measured six feet six inches from tip to tip.—*Inverness Courier*, February 8th., 1856.

FROM "THE TIMES."

The Little Bustard.—In passing through Alford, in Lincolnshire, a few days ago, I observed a very beautiful female specimen of this bird stuffed in a druggist's shop; upon inquiry, I ascertained that it had been shot a week or two before at Bilsby, near that town. As I had previously thought that this bird was now quite extinct in these islands, I have determined to send the fact to you for publication, for the information of those naturalists who are as ignorant as myself.—OBSERVER, January 29th., 1856.

In a recent copy of your paper a letter appeared, signed "Observer," noticing the capture of a specimen of the above species, under the idea that it had become extinct in England. Although it is of rare occurrence, I have known during the last twenty years of several Cornish examples, and about two years since two were shot in this immediate neighbourhood, and a third seen. One of the above individuals I bought at a game shop in Penzance, and it was offered as a curious specimen of the Silver Pheasant. It was a female bird, in very perfect plumage, and is now preserved in my Museum.—EDWARD HEARLE RODD, Penzance, Feb. 1st., 1856.

Observing by a letter in your impression of to-day that a specimen of the Small Bustard has lately been killed in Lincolnshire, I venture to intrude myself on your notice, and to state that a specimen of the Great Bustard (*Otis tarda* of Linnæus) has recently (3rd. of January inst.) been taken in the neighbourhood of Hungerford, where I reside, and just on the borders of Wilts. and Berks. It is a male bird, and is a very fine specimen.—W. H. ROWLAND, Hungerford, Berks, Jan. 29th., 1856.

* I doubt this very much.—F. O. MORRIS.

The Blackstart.—There have been a few specimens of the Blackstart here this autumn in the usual sombre plumage of the season; whether they are young birds, or all take the same plumage prior to their migration, I have not yet been able to determine, but I have never in the autumn found them but in the same state of plumage.—STEPHEN CLOGG, Looe, Dec. 18th., 1855.

Flight of Martins.—On the 29th. of November I saw a large flight of Martins here, and although there had been very severe frost, they did not appear very weak. One was shot, with the intention of being preserved, but it was not found in sufficient good plumage for that purpose, not having got rid of its nest feathers. It was very plump in flesh. On the 4th. of this month I also saw four Martins flying about, but appearing in very poor plight, as we had one of the severest frosts the night before I ever remember at this time of the year.—Idem.

Scarcity of Birds.—Last winter made sad havoc with the Thrush tribe, nor do they seem to have much recruited during the summer, as we scarcely see any Blackbirds or Thrushes in haunts where in former years they were to be found by dozens. I took a walk of many miles in the country last week, through lanes, open pastures, and on the sea coast, and saw but one solitary Blackbird during my walk. Fieldfares and Redwings have not yet arrived, but here and there a few Starlings are to be seen; in fact, birds of all kinds are scarcer in this neighbourhood than I ever before remember.—Idem.

Occurrence of the Great Plover and Spotted Crake in Devon.—On the 24th. of last month I bought an adult specimen of the Great Plover, or Thick-knee, (*Ellicnemus crepitans*), in the Plymouth Market, killed in the neighbourhood. I believe that it is not generally known that the enlargement of the knee-joints and tarsi in this species is confined to young birds only. This I have found to be the case from repeated examination. A similar peculiarity of formation I have observed to exist in the legs of the young Green Sandpiper. A fine example of the Spotted Crake (*Crex porzana*) was obtained in the vicinity of Plymouth a short time since, and some others seen in the same locality.—JOHN GATCOMBE, Wyndham Place, Plymouth, December 3rd., 1855.

The Ring Ouzel.—A Ring Ouzel (a hen) was shot here, and sent to me on the 2nd. of February of this year. I mention this as a rare case, for White, in his "Natural History of Selborne," says that Ouzels migrate in the autumn from the north to the south; and the old people here consider the appearance of an Ouzel as a sign of approaching summer. But I see that White also says, "the Ring Ouzel stays in Scotland the whole year round;" perhaps then, as this is the case, it may occur that an occasional Ouzel may be left behind in their migrations; and this may account for

the fact of the one already referred to being here. It is however considered as a rare thing by the people.—JOSEPH B. GRANT, Oxenhope Parsonage, near Keighley, Yorkshire.

The Ring Ouzel.—Having always understood that the Ring, or Rock Ouzel, as it is here more generally called, left this country in October, I was much surprised on Monday morning last, the 24th. inst., to see one in the garden in front of our house come to feed upon some berries of the mountain ash, some trees of which grow close to the house. There was at the same time in the garden a male Blackbird come for the same purpose, but that caused me no surprise, as it is almost their daily practice whilst the berries last, and also with Thrustles too. I don't recollect seeing the Ring Ouzel so late in the season before. I thought I had some notes of having seen now and then a straggler in the beginning of the month of November at different times, but I cannot now find them, but I every year meet with them in packs of from six or eight up to twenty or more upon the moors in this neighbourhood in the latter part of the year (August and September,) feeding upon the bilberries, which grow abundantly upon the moors. They generally arrive here the first week in April, about the 6th., 7th., or 8th. Some five or six years ago I recollect meeting with one that had just arrived; I think it was on the 7th. of April, which appeared in a very weakly condition, for it allowed me to go very near to it before it would move. I set it up two or three times, and followed it until it flew into a thorn tree, where it allowed me to approach within about ten yards of it; and there I heard it commence singing in a low tone, very much like a Thrustle, quite different to the song that it usually has during the breeding-season. The notes were more like the notes of the Thrustle than any other bird with which I could compare them.—T. S. TINKER, Hepworth, Holmfirth, Dec. 26th., 1855.

Occurrence of Rare Birds.—A Little Bittern was shot at Hilsea, Hants, in 1851; now in my collection. Hen Harrier shot at Horndean, Hants, also in my collection. A fine specimen of the Great Black-backed Gull, which I have in first year's plumage, was shot in the vicinity.—P. W. WEST, East Cosham Lodge, near Portsmouth, Hants, January 24th., 1856.

English Names for Butterflies and Moths.—I should like to say a few words on behalf of English names for Butterflies and Moths. The English names would be much more easy, both to pronounce and to remember, than the scientific ones by the unlearned student, and the public in general. If we have English names for flowers, plants, and animals, why not for Butterflies and Moths? Who calls the Daisy the *Bellis perennis*; then why should we be obliged to call the Wood Argus *Satyrus Aegeria*? With respect to Mr. Stainton's remark that we should have to learn two names instead of one, I reply we should almost as easily learn the two together as the scientific one

only; and again, with respect to the 'Wood Argus' being called the 'Speckled Wood' near town, that is the fault of having no supreme authority. Let the Entomological Society be the authority, and furnish the English names, (as the "College of Surgeons" is the authority in England for the names of drugs and chemicals,) and not only would the students in Entomology soon learn them, but the public would become better acquainted with the beautiful Insect World around them. Mr. Albert Smith, in his "Ascent of Mont Blanc" entertainment, mentions his delight at the appearance of the elegant striped "Scarce Swallow-tail" (Butterfly;) or the beautiful bright Vermilion or Mountain (as the name may be decided upon) Tiger Moth, instead of the "*Papilio podalirius*," or the "*Callimorpha Hera*," which nine-tenths of the audience would not be able to understand or remember. In fact, we should find many beautiful insects creeping from the leaves of Nature into those of Art—those of our newspapers, journals, and books, if they had but *proper* names.—J. J. R., Newhaven, Sussex, February 14th., 1856.

Callimorpha Hera.—I noticed your remark upon *Callimorpha Hera* in "The Naturalist." Thinking that, perhaps, you have not seen the "Zoologist" for this month, I would inform you that a specimen was caught here by a little girl at the corner of the principal street; it was flying, and she brought it into my shop, and it flew on to the window. It was a nice specimen, and I gave it to my friend Mr. Cooke, of Brighton, who has a very superior collection of Moths and Butterflies. Mr. Cooke has had it exhibited in London before the Entomological Society, but they will not as yet admit it as British; but as there is no one *here* but myself who takes an interest in these things, and as any travellers passing through here with the Pupa from France or the Channel Islands, would scarcely allow the perfect insect to escape, I think it should be admitted as British. Mr. Cooke says he saw one flying at Hastings a few years ago, but could not catch it; he also saw the wing of one in a spider's web.—Idem.

A Christmas Novelty.—At a large and good Show of Poultry, etc., the other day in Liverpool, a box containing some fine Butterflies were exhibited. They appear to have been captured on the 26th. of December, to the number of thirty-six, by Mr. William Banning, in his garden at Grebe, Isle of Man; since which they have been kept in a wooden box, with glass cover, and regularly supplied with food. Several, however, died on their passage to Liverpool, the others appearing in a torpid state till brought to a brisk fire, when they soon spread their beautiful variegated wings. Not having had the pleasure of seeing the above unseasonable visitors, I cannot speak to the species, but take them to have belonged or akin to the *Fritillary*.—H. ECROYD SMITH, 4, Huskisson Terrace, Egremont, January 26th., 1856.

Late Blossoming of the Laburnum.—The second blossoming in a season

of a Laburnum tree has just occurred (November) in my immediate neighbourhood. This tree, trained up the front of a house, one of a terrace, is protected by it from the north and easterly winds, and thus far the conditions may be considered favourable; but I believe that such an occurrence is by no means frequent. A friend of mine, Joseph Clarke, Esq., of The Roos, Saffron Waldon, (a well-known Essex naturalist,) informs me of a similar occurrence at Andover, Hants, noticed by him some fifteen years ago. He also states that a bush of Elder, (*Sambucus nigra*), which stands near his house, is *always* clothed with a crop of blossoms after the berries from the first have ripened. Apple and pear trees will also occasionally blossom twice in the year with us, and probably other instances occur, which it would be interesting to know of, would some of your numerous country readers but take the trouble to record them.—Idem.

The Retrospect.

The "Great Unknown" Hawk.—Dr. Hobson need make no apology for his remarks on this bird. They are exceedingly accurate; worthy of Macgillivray himself, and higher praise cannot be awarded. I have myself little to add to what I before said. The differences in size and colour spoken of as attaching to the Sparrow-Hawk, have reference to ordinary birds of the kind; but the individual in question is certainly an extraordinary one. As to Macgillivray's remark that the *scutellæ* in the Sparrow-Hawk are "pretty regular," I have already shewn that he lays far too much stress on their number, as distinctive. Besides, even if there were anything in their number as a specific characteristic, a hybrid, (which it is one of the suppositions that the present bird is,) would be expected to share in the double variety of the numbers in each of its "component parts." The same remark applies to the length of the legs, the wing feathers, etc. Dr. Hobson certainly now proves, I think, that it is not a variety of the Sparrow-Hawk alone, but that (if not a new species,) it is made up of some two different ones, between which it is a hybrid.

"Why not allow the Merlin to have a share in his production?" I am far from denying any such possibility. I can but say that the first impression that the 'tout ensemble' of the bird, its piebald appearance, conveys, is that it is a pied variety; the colour of the claws is in favour of the supposed albinism; and a closer inspection leads me to the further supposition that it may be a hybrid.—F. O. MORRIS, February 23rd., 1856.

Reviews.

THE name of the author of the "Entomologist's Annual," was inadvertently omitted in the notice of the work in the February number of

"The Naturalist." It is by Mr. H. T. Stainton; one of the best Entomologists of the day.

Rustic Adornments, for Homes of Taste. By SHIRLEY HIBBERD. Price 10s. 6d. London: GROOMBRIDGE AND SONS.

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Those who remember the philanthropic wish of poor Suttum, uttered to Mr. Layard as he waded his mare through a sea of bright blossoms on the plain of Nineveh,—“Ya! what do the dwellers in cities know of true happiness? God have pity on them! They have never seen grass or flowers! What delight has God given us equal to this? It is the only thing worth living for!”—will hail the publication of Mr. Hibberd's work as a practical commentary on Suttum's kindly sentiment, which every one who loves the country for the country's sake will share with him towards those who have the misfortune to be dwellers in towns.

Such works as the present are the only means of advancing the realization of the “Rus in Urbe;” and here moreover we have literally the sea brought upon dry land, and the earth as it were carried down to the depth of the ocean, and we upon it. The letter-press portion of the present work appears to be all that it ought to be; and the illustrations, which are very numerous, and many of them beautifully coloured, are likewise all that can be wished or wanted. In a word, the matter and manner of the work coincide happily, and each in turn well illustrates the other.

Proceedings of Societies.



The London Working Entomologists' Society held their first meeting on Wednesday, February 6th., when the Rev. F. O. Morris was elected President; R. G. Schofield, F.G.S., Vice-President; Mr. E. Dow, Auditor; and Mr. James Gardner, Hon. Secretary.

The following donations were received, and a vote of thanks passed for each,—“The Naturalist” for January and February, by the Editor; the “Zoologist” for January and February, by the Editor.

Some specimens of *P. cassinea* were exhibited, also a new plan of relaxing insects.

Several insects were mentioned for exhibition at the next meeting; also a new description of Larva Box.

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Leeds Intelligencer.

"We cannot close our hasty notice without expressing our admiration of the style in which the illustrations are executed, and the pleasure we have derived from the perusal of the interesting 'Notes of a Yacht Voyage to Hardanger Fjord.'"—*Cumberland Paquet.*

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O LORD, how manifold are Thy works! in wisdom hast Thou made them all: the earth is full of Thy riches.—PSALM civ., 24.

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* * * Correspondents are particularly requested to write the names of persons, places, and things VERY DISTINCTLY.

Communications, Drawings, Advertisements, etc., to be addressed to the Rev. F. O. MORRIS, Nunburnholme Rectory, Hayton, York;—Books for Review and Parcels, to the care of Messrs. GROOMBRIDGE, 5, Paternoster Row, London.

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Advertisements to be sent not later than the 15th. of the Month.

CHARACTERISTICS OF COMMON BIRDS

BY O. S. ROUND, ESQ.



SOLITUDE is the parent of contemplation, without which nothing that depends upon observation merely can produce a lasting or accurate impression on the mind; and this applies with the greatest force to objects constantly before us, and which, from their very familiarity, require an exertion of the mental faculties to think about, before they can be fully understood. Now, in my lonely wanderings on the moor or in the covert, I have often been led to make this remark to myself, and as often felt a great satisfaction in the reflection, how great a field there was for the luxury of uninterrupted thought to be found in the great storehouses of nature. The observations I have been thus led into were of two classes, the agreeable or amusive, and those which partook of freedom of range.

As I watched the motions of the newly-arrived summer visitants, it was with no small interest that I considered the journey they had lately made to come to us; they always seemed to me to be endowed with a certain degree of novelty and freshness; and the wild laughing notes of the Willow Wrens, and the full song of the Blackcap or Whitethroat, heard amidst the bright beams and bright green of a really May day, were always very refreshing to me. Association, no doubt, has a good deal to do with this, for, call to mind a bitter day, as May too often shews in our country, and fancy one of these pretty creatures hanging amidst the scarcely-leaved boughs of a birch tree, and the reminiscence will probably have something chilling in it, rather than enlivening. I suppose that these gentry are tired with their journey, however fittingly it may have been performed; at all events, it is some time before they are troubled with domestic cares; as to the Cuckoo, as is notorious, he disdains them altogether, and thoroughly enjoys himself like a real gentleman, seeming to consider that the sunshine was made specially for him, and all bird-kind as the nurses of his scattered offspring.

If the weather be unpropitious and the spring backward, so that we say "When will warm weather come?" it is very curious to observe how silent we are, no Chiff-chaffing, (although, by the way, this lively little fellow *does* sing in the cold weather sometimes,) at all events, little general summer music; but let a really hot morning come upon us suddenly, and what a chorus there is; to use a common phrase, it is quite 'stunning.' How my Lord Chaffinch revels on the leader of the tall fir, Greenfinches chirrup away amongst the garden hedges, the Lark carols above the mist, and every tiny throat proclaims the presence of songster upon songster, here, there, and everywhere. It is a charming thing to listen to.

“How sweet in the morning to wake from your slumber,
 The sun shining joyously into your room,
 Whilst in woods and by meadows, the birds out of number,
 Send forth their blithe notes 'mid the purest perfume.

You rise from your couch from the sweetest of visions,
 A dreamy oblivion of gentle repose,
 And slumbering and waking, such tender transitions,
 You know not the dawning, you feel not the close.

Too perfect to last, and too full of sweet rapture,
 Such hours are bright gleams in the memory of time;
 Then, oh! let us store the invaluable capture,
 And mingling the lovely, still feel the sublime!”

From this we roam forth upon the heath, whilst the dew drops still hang
 upon the grass-tops; how sweet the air is, how free the scene,

“It is a feast to linger there,
 If only 't were to think.”

But there is much more than this; we have not gone far before up springs the Titlark, and flits about at a short height, with his sharp cry; and perhaps, above the wreaths of mist that wrap the hills like a fleecy mantle, the Kestrel goes skimming along, ever and anon pausing with outspread wings, and again away in search of a quarry. Then there is always the Peewit with his eccentric movements, diving and uttering his own name in very pleasantry. Try to find his nest; you will be puzzled; it is open enough; but where? aye, that is the question; so like spotted stones of the moor, are the eggs, so unconspicuously coloured and hued, and you must watch, and closely too, before you can find them. I remember an old man who got a precarious subsistence by vending those eggs, and broom-making, and who was known as ‘old Chick’ for many years in the neighbourhood of Chobham bogs, and he was a dead hand at finding the nests of the Peewit; and the story went that some friend, having advised him that he could obtain a large price for his commodity in London, thither with a vast store in a basket on his back he trudged; but alas! for his want of foresight, his iron-shod heels no sooner reached the smooth pavement at Hyde Park corner, than poor old Chick came sprawling with his eggs, which were broken in the fall; and what was worse, he got nothing but ridicule when he returned to his moors.

I shall take warning by his fate, and not carry all my treasure at once to market; so for the present I shall ‘intromit.’

Pembroke Square, Kensington, February, 1856.

DOWN THE RIVER.

BY J. S. WALKER, ESQ.

(Concluded from page 36.)

THE serious business of the day commences, and we make preparations for dinner; the hampers are unpacked, and one of the ladies assumes the responsible office of cook. The kettle is slung across the fire, and the fish we have just caught are hissing in the frying-pan. Seating ourselves in a circle on the ground, we partake of a substantial repast.

Soon after we are joined by another black, nicknamed Ramrod—very inaptly—for he is, unlike the majority of his brethren, nearly bent double, and walks in a halting manner, as if he were lame, probably in consequence of a fall from a tree whilst in quest of opossums. But his fame is great as a skilful fisherman, and woe to the luckless mullet which swims within the gaze of that eagle eye. Ramrod has paddled after us in his canoe, and is attended with three or four large curs—gaunt, mangy, and half-starved, as is the case with all the blackfellows' dogs. The canoe is the frailest of vessels, made by simply stripping a sheet of bark from the tree and tying the ends together. It is about seven feet in length, and six or eight inches in width, and is so light as to be easily carried on the head. Ramrod's arrival is hailed with great delight by his friends, as a welcome addition to our party.

By this time as night has come on, and the children are fast asleep in their blankets, I stroll down to the sea-shore. Nothing can surpass the loveliness of an Australian night. The sea-breeze has died away, and a faint balmy air, heavy with the perfume of the Wild Clematis, hardly ripples the still waters of the lake. At my feet the waves of the Pacific Ocean come rolling in, their crests burnished like gold with phosphorescent light; the black rocks frown around me, and the distant hills are almost hidden in darkness, but I can discern the fringe of tall forest trees which crown their summits, standing out sharp and crisp against the clear blue sky. The picturesque effect is much heightened by the blacks, who have waded into the shallows with torches made of bark, from which long trails of fire fall into the water, as the fishermen run to and fro. The shouts and laughing of the blacks in the distance, the splash of fish in the lake, the shrill wild scream of the Curlew, and far overhead the plaintive call of the Black Swans, as they wing their way to the fresh-water lagoons of the interior; a Dingo, or Wild Dog, which from one of the headlands serenades us with dismal howlings,

“The wolf’s long howl from Oonalacha’s shore;”

but above all

“The murmuring surge
That on the unnumber’d idle pebbles chafes.”

All these form such a strange admixture of sounds, as can only be heard in such a scene, and at such a time as I have attempted to describe.

I wait here until the blacks have returned, and then walk over to their camp. Fragments of fish and bones are strewed around, and the dogs are engaged in the somewhat difficult process of eating them. Their owner and his two friends are busy at a game of cards—such cards! The pack is evidently imperfect, and begrimed with dirt, but the players are quite satisfied, and deal them round with the utmost gravity. I have often watched the blacks on former occasions, but could never for the life of me discover what game they were playing, or whether they were guided by any rules, and I was ultimately obliged to come to the conclusion that the smartest man took up the trick. As each played when he thought fit, it would frequently happen that one would be left without any cards in his hand, but noways disconcerted, he would quietly watch the others until the next deal. However, they scorn the idea of playing “for love,” and indeed have as aristocratic a taste for gambling as if they had been born in Belgravia. It is not considered at all necessary that the stakes should approximate in value, each man stakes what he has got—one a pipe, another a knife, and another a pair of trowsers, and the fortunate winner takes up the stakes, to the perfect contentment of the losers.

When the game is finished I seat myself by the fire, and Ramrod and I engage in an animated conversation. He tells me that, many years ago, he camped with his tribe on this very spot, on a fishing excursion down the river, when he was a little piccaninny, which I guess to be about forty years ago; and that here he saw, for the first time, a white man. I wish I could imitate his graphic description, spoken in that peculiar patois commonly called “broken English,” which is adopted in all communications with the blacks. It was nearly sundown when one of the women discovered a human being walking towards them along the sea-shore; with a yell of terror the whole tribe, men, women, and children, plunged into the lake, and swam across; but Ramrod being unable to follow, hid himself amongst the tall reeds, and watched with breathless interest the proceedings of the stranger.

Attracted by the smoke of the fires the white man came up to the camp, and greedily devoured the half-cooked fish which the natives had left in their precipitate retreat. Doubtless he was some poor mariner whose vessel had been wrecked on the coast, and was now endeavouring to make his way to Sidney, distant some two hundred and fifty miles. His clothes were torn to rags, he was footsore and weary. Ramrod with that talent of mimicry peculiar to all savages, illustrated his condition by hobbling backwards and forwards in front of the fire, elongating his face to describe the white man’s gaunt look, and casting quick and frightened glances on

every side, which brought the scene most forcibly before me. Then desecrating the blacks on the opposite shore, he tried to induce them to return, by waving his hands, and holding out a knife for their acceptance. Alas! poor wanderer, his journey was nearly ended, he was soon to reach that haven "where the weary are at rest." He sat upon a log and watched the blacks until nightfall, and then laid himself down to sleep. Just before dawn of day, the blacks, as is always their custom, attacked him, one of them threw a spear, which passed through his leg; he stood upright, but made no attempt at escape or defence, and burying his face in his hands awaited his fate. The savages then rushed in upon him, and put him to death with their clubs.

Ramrod concluded by informing me that his late respected father appropriated one of the white man's hands, which ghastly trophy he carried about with him for many days.

"But Ramrod," I ask, "tell me the truth; did your tribe *eat* that poor fellow?" Ramrod hangs down his head, and looks rather ashamed, but only mutters "pah!" and lights his pipe by way of changing the conversation; he is evidently not pleased with my question, and coils himself up for sleep, so I betake myself to the tent, and follow his example.

We rise early the next morning, and find that the Fish-Eagle and Crows have been beforehand with us, and have stolen the best of our fish which we left during the night on the sand. The history of the Australian Crow is rather an interesting one. They are extremely numerous in every part of Australia, but always prefer to be near the abode of man. Of course, like all the *Corvidæ*, they are arrant thieves; they will pickpocket the eyes of the young lambs and pigs: a fat duckling is a much desired prize. I have watched one of them walking sideways round a hen with a clutch of young ducks, which, aware of the intention of their enemy, have huddled round their foster-parent, who with drooping wings and fierce cluckings, presents a bold front to Mr. Corax; but unless driven away, he is almost always successful. He inserts his beak under the little duck, and turns it on its back; in which helpless state he seizes it in his bill, and makes off with it to some decayed stump, where, with a croak of triumph, he devours it at his leisure. The Crow will also take the eggs and callow young of the domestic pigeon from the dove-cote. On one occasion, having suffered much in this way from the attacks of a particular Crow, I put two pieces of meat, each containing a small dose of strychnine, on the top of an old out-house; my friend devoured both pieces in a moment, and then flew away to a neighbouring tree, when he was joined by his spouse; and I was much amused when I saw him, as a delicate mark of connubial attention, disgorge one portion into her beak: in less than five minutes both dropped dead at the foot of the tree. But they are useful

as scavengers, and share with the vultures the dead carcasses of the oxen and horses which have died in the bush. It is, however, a curious fact that although so numerous, I never yet heard of any one who had found their nests, nor did I ever see a young one. I am quite unable to account for this, as in the breeding-season they are as common around our homesteads as at any other time.

After breakfast we ferry the ladies and children across the water, as the former are anxious to make sketches, and we ourselves return to the sand bank and join the blacks who have commenced fishing. Ramrod, in a state of great excitement, directs our attention to a belt of scrub about a quarter of a mile distant, and we observe with surprise that three large animals are feeding there, with whose appearance we are quite unacquainted. As soon as they see us they raise their long necks, and gallop awkwardly towards us, uttering a strange guttural sound. We discover them to be Camels, two females and one male; their appearance is so threatening that, although we believe them quite harmless, yet we all make a rush to the boat, and push off into the stream; after surveying us for a few minutes they return to their feeding grounds, and disappear in the forest. The history of these Camels is this:—A gentleman residing at Twofold Bay, had, many years before, imported a pair with the view of making use of them as beasts of burden; but they were not found to answer—the ground was too hard and stony for their wide feet; and they were also very troublesome—breaking down the fences, and destroying the crops, added to which, they were objects of such intense dread to the horses and cattle, that whenever they made their appearance, the former would break out of their enclosures and take to the bush, and on this account, the stockmen secretly destroyed the young of the camel soon after it was born.

The female ultimately died, and the male, having its liberty, took up its abode on the banks of a salt-water river some miles up the coast, near the hut of a small farmer, who made use of it as a ferry-boat to convey goods across the river, and levied a sort of toll on every traveller who required its services. An amusing story is told of a pedlar who refused to submit to the tax, and as the Camel was perfectly quiet, he loaded it with his wares, and perching himself on the top, guided it into the stream; but when half-way across, the farmer, who had watched his proceedings with great disgust, called out '*couchez,*' upon which the obedient animal recognised the well-known voice, and *laid himself down*, and the unfortunate pedlar with his wares was precipitated into the water.

A few years later, the Government imported three more Camels, with the intention, I believe, of employing them in an exploring expedition into the interior—a purpose for which they were well adapted; but the male died, and the two females were ultimately sent to Twofold Bay, and

having been joined by the old male, were set at liberty "down the river," where they have remained ever since. Before I left Australia they had increased to seven, but the young ones had become so wild that it was impossible to approach them; and I know not how they can ever be captured alive. The original idea was, that in seasons of drought, which are unfortunately but too prevalent in Australia, when the pasturage is burnt up and the ponds and water-courses dry, the Camel would be enabled to subsist by browsing upon the leaves of the trees; but the forest is composed almost entirely of gum trees, (*Eucalyptus*;) the leaves of which are so extremely astringent, that the Camel rejects them; nor in a country where horses are so numerous is there, I think, any necessity for them.

Our hands are so chafed and sore with the fishing lines, that we leave the blacks to pursue their sport alone, and stroll with our guns along the shore of the much-sounding sea. A large Owl sits blinking upon the topmost branch of a dead tree, and offers a most tempting shot, but we spare his life, and as he flies away we think of Beattie's ode—

"Whence the scared Owl on pinions grey,
Breaks from the rustling boughs,
And down the lone vale sails away
To more profound repose."

We observe many tracks of Kangaroo and Emu, and are fortunate enough to get a glimpse of a pair of the latter. These birds are becoming extremely scarce, and disappear sooner than the Kangaroo from what are called the Settled Districts. Their habits are too well known to require any description. I was once out hunting when we had a long 'run' with an Emu. We were drawing a thick piece of underwood when, to our astonishment, an Emu broke cover in full sight of the pack of foxhounds. It was killed, but there was no one "in at the death," for the Emu is both swift of foot, and of amazing powers of endurance. I have heard of two instances in which they were hunted with a pack of fast foxhounds near Melbourne, the one was killed at a distance of twenty-five, and the other at thirty-five miles from whence the chase commenced.

A curious circumstance occurred on this ramble. Feeling somewhat fatigued I laid down under a tree, and my companion sauntered away to have a shot at some Wild Ducks; I heard the report of his gun, and about ten minutes afterwards a large Fish-Eagle perched overhead on the tree. Looking up I saw he had got a Wild Duck in his talons; I shouted out and threw a stick at him, and he was so scared that he dropped his prize; and my friend was much surprised when he returned to find me in possession of the bird which he said he had wounded, but that it flew out to sea, where it had been captured by my retriever.

But the day is now far advanced, and we are many miles distant from

home, the tent is struck, and with the game and fish stowed away in the boat. The ladies and children are on the opposite shore gathering flowers and plants, and as we row the boat across, we rest on our oars close to the bank, and I take "a last fond look" at those pleasant scenes which I shall never see again.

A little girl stands upon a rock, and as she recognises us, her dark eyes flash with pleasure, and a merry laugh greets our approach. Her lap is full of the wax-like flowers of the *Epacris*, and the wanton wind plays amongst the brown tresses of her hair. As I gaze the scene grows blurred and indistinct, for I am looking at it through my tears. Woe for the brown ringlets, and woe for the sad parents' hearts, for the little form sleeps now in the cemetery at Kensall Green; there withered and dead she lies, that little Australian flower. For "the wind hath passed over it and it is gone, and the place thereof shall know it no more."

Then we hoist our sail to the freshening sea-breeze, the water is parted at the bows with a pleasant lap-lapping sound, the Bell-birds ring out a mournful peal from the Tea-tree scrub, as we glide swiftly by, and so ends our trip "Down the River."*

MOTH HUNTING; OR AN EVENING IN A WOOD: BEING TWO LEAVES FROM THE LIFE OF A NATURALIST.

BY MR. THOMAS EDWARD.

(*Concluded from page 88.*)

LEAF II.

WELL, I declare, how strange, how very strange I must have looked, had any one seen me, on discovering my error. What will not an overheated, or an over-taxed fancy do or pourtray at times to itself? In this case, however, distance and the gloom of the place had both aided to deceive. But, by-the-bye, there was no very great mistake, if any, after all. The monster, or rather the nondescript, it is true had vanished, by assuming a new and well-known form, or rather forms, but then I had been for many years on the look-out for a Badger, for a literary as well as a scientific purpose, and had never as yet obtained one, and now that I had no fewer than three almost within my longing grasp, why the very idea was intoxicating in the extreme. But how was I to act in order to procure one. Ah! there was the rub, or rather the difficulty. I had three to deal with now instead of one, and just in the same way, for I saw no other, as I intended at first when I thought I had the old chap himself to deal with, namely, to fall down upon as soon as they came up to me, and grapple with as many as I could get hold of in order

* I should be glad of some more such well-written papers from Mr. Walker.—F. O. MORRIS.

the better at least to secure one if not more, for I confess I had an eye to two. Some will no doubt smile at this my dog-like premeditated mode of procedure, and call it the very height of foolishness; whilst not a few may say, or rather think, "Surely the fellow has been mad, or something worse, or such a project would never have entered his head." Well, perhaps I am a little crazy. Naturalists, however, are a strange and singular class of beings, often laughed at, and often spoken lightly of. Well, never mind, I don't care, say and think as you will, I have been at the trade before, and know something of the matter. I remember on one occasion in particular, and when other four, like myself, being at the time but a boy, took to their heels and ran for it, mastering and securing a very large litter in this self-same way, and was only bit once in doing so.

My whole object being now to obtain one of these, I prepared accordingly; but unfortunately having, unthinkingly, moved rather much, my presence became known sooner than I wished or intended, so that I had the mortification and disappointment of seeing all three wheel right round, and commence a retrograde movement, at full speed, back the road they came. I saw my misfortune at once, and deplored it, too. However, and as I thought a chance might yet remain, down went my hat, not wishing to be encumbered with it, my coat buttoned to the chin, and a napkin tied round my left hand, by way of a shield, whilst my other grasped my collecting box, intending to use it by way of a hammer, if needs were—having in the spur of the moment entirely forgot its valuable and precious contents—and off I bolted, nay, rather flew like a race-horse. My intention still being, as it was at first, as soon as I made up to them, which I knew I should if they kept the path for any length of time, stretch myself on all three, if possible, so that I might secure one.

What a scene for any one to have been an eye-witness of. The three Badgers hobbling away at the very hardest, and their pursuer flying like one totally deranged or bewitched, at the full top of his speed. No, I am sure, there is not, nor ever was, nor in all probability ever will be, such a picture in all the National Gallery, nor in any other Gallery, or place of exhibition, open to public gaze.

It so happened, however, that the ground beyond and next to the side of the path at which the Badgers were running, was in many places remarkably steep and rugged, and at the bottom flowed the river already spoken of. Now my fears were that they would turn off in that direction before I could get up to them, as there were plenty of rabbit-burrows, in which they would have found both safety and shelter, and to have followed, or made an attempt to have followed them there, would have been worse than sheer madness, as, doubtless, the river or its bed would have been the first landing. But what will not wild enthusiasts do, or dare to do? We shall see.

Well away, away we ran, still labouring, and up, up I was getting, gaining on them rapidly; for you must know that although Badgers bite desperately, they cannot run fast;* and as for myself I must tell you that I was then running as never man ran before, nor since, nor ever will, for my feet scarcely touched the ground. But alas, and as I had anticipated, just as I neared and was about to close with them, I saw the beginning of my worst fears realized. Off went one down the declivity, away went the second, and now—now came the exciting moment, as round turned the third and last broadside, to follow his companions; and, as with one last, desperate, and supernatural-like effort, having summoned up every remaining particle of strength and breath for the purpose, I sprang with one bound to the spot, all hope of my former plan being now at an end, and another having suddenly seized my brain, I gave him such a *coup de grace* with my right foot on the hind quarter as sent him reeling and no doubt wreathing in the air like a shuttlecock, though perhaps not quite so high; my object being to have followed up the assault, and to have set upon him as soon as he came down, and before he could have had time again to have got himself properly righted, so that he would or might have fallen an easy prey. But no; I did indeed see him go up, but when he came down again, or whether he is yet down or not I positively cannot tell; for no sooner did my foot come in contact with his extremity, than the other, not willing, as it would seem, to be behind its fellow, rose too, and with as little ceremony as if I had been on the smoothest piece of ice. Up, up and away flew my collecting box, and down, yes down to be sure I went. What, down the steep and right into the stream? O no, but I wish I had, for I might have fared better than I did, but down on my poor back right on the hard path I came, as flat as a flounder. Yes, there lay the poor old naturalist, the very picture of death, and once more reaping the choice fruits of his enthusiasm, or perhaps, as some would say, foolishness. Well, no matter, and just any way you like; for it has ever been, and I am sore afraid will ever be so to the end; at least his mother used to say when he was a *loon*, “Weel, weel Tam, ye’ll never halt till ye be drowned, or else gotten dead in some wood and devoured wi’ beasts.”

How long I lay I cannot tell, but it must have been some considerable time. Coming to myself again, however, and recollection having in some measure returned, my first impulse was to feel if both legs were still attached; for I had a sort of faint notion that at least one of them flew

* Can't they! Some of my schoolfellows will have with me I entertain no doubt—at least I can answer for myself—a considerable amount of difference of opinion about this. What a tale I could unfold of school-days! Perhaps I may open a page of it some time or other.—F. O. MORRIS.

after the Badger. Satisfied here, and wondering from the pain proceeding from another quarter if my head was also adhering, my hand wandered there next, and found it to be near about its proper place, and though not shattered to pieces as I expected, I discovered that I had gained a pretty large addition to the back part, in the form of a new *bump*, fully as big as a Turkey's egg, and which I leave to some friendly phrenologist to name.

Attempting to rise, and having once more gained my feet, I could not help recalling to mind the words of Walter Kelpie, when his honour exclaimed on one occasion after a hard piece of work, "Sair back, and sair beans, cam at mill o' Mangie's steans;" for although I had not been turning mill-stones like Kelpie, still I felt a good deal sore, and not a little confused; but I must not complain; and as all further entomologizing prospect was at an end, I would look about for my box and hat, with the view of returning for the night, but found it too dark to obtain the former, which was met with fully thirty yards from where I fell. I found my hat where I dropped it, and on attempting to put in on, was rather sharply and painfully reminded of my new acquisition, and being a pretty tight fit before, I had no other alternative but to walk home, which I did, with hat in hand, and wondering what had become of my shaggy friend.

But though my insect careering was thus brought to a close for that evening, not so my badgereering; for that same night, my cranium, new bump, and all, was so crammed full of them, that I would have shot poor *baderens* (the cat) in my bed-room, where she chanced to be making a little bit of a noise, (after a mouse perhaps,) for one; having risen in my sleep and loaded one of the barrels of my gun for that very purpose, and was just in the act of putting a cap on the nipple when I awoke.

Banff, October, 1855.

HINTS TO INSECT COLLECTORS.

BY TAXUS.

HAVING had personal experience in the difficulties and doubts which beset the young Naturalist's path, I submit for his instruction, whether he be a schoolboy or a working-man, a few simple hints for his guidance, as an earnest of my wish for his progress in the delightful study of Insects. When we consider the comparative abundance of Insects in every locality, their wondrous ways and works, the simple apparatus required for capturing them, and the small space required for storing specimens; the habits of bodily activity, of accurate observation and thoughtful research, demanded in collecting and arranging them; the reflex influence which the cultivation of such habits during the *leisure hours* of school-tasks or daily toil must exert on the formation of character, there is perhaps no department of

the animal kingdom so suitable for engaging the attention of these two classes of students.

There is comparatively little good to be derived from reading books on the subject, unless specimens or accurate figures are at hand. In every case it is best to form a collection of British Insects, so as to obtain a comprehensive view of the subject, and then devote a season or more to the study of each order in succession, or at once to devote the whole attention to one order. A little experience will soon point out the propriety of such a course of action. Butterflies, Moths, and Beetles, have the greatest number of votaries.

The student should endeavour to obtain practical instruction in collecting, setting, and arranging specimens, from some experienced person in his neighbourhood, or else he must seek information in books.

There are now several booksellers in London, who advertise a reduction of two-pence on every shilling, for cash, on the published price of every new book, and their practice is now followed by several booksellers in many of the large towns in the country. It is well to attend sales of books, to obtain priced lists, and to frequent second-hand bookshops, for if books are perfect, a little soiling is of no consequence to the earnest student, to whom every penny saved is a penny gained for some other useful purpose. * * *

"Ingpen's Instructions on collecting Insects," 3s. 6d., is the best work on the subject. "Newman's Familiar Introduction to Entomology," 12s., is very comprehensive, but it is now behind the age. "Duncan's Introduction to Entomology," "Naturalists' Library," 4s. 6d., is less comprehensive but yet worthy of attention. "Westwood's Entomologists' Text Book," 7s. 6d., is an excellent work. In all matters relating to the habits, instincts, etc., the "Introduction to Entomology," by Kirby and Spence, stands unrivalled; the later editions in two volumes 30s., are restricted to the above subjects, but if the older and more comprehensive editions in four volumes can be purchased at the same price, so much the better. In the "Library of Entertaining Knowledge," the volumes on "Insect-Miscellanies"—"Architecture and Transformations," at 3s. 6d. each, as well as the re-issue of two of these volumes in "Knight's Shilling Series," are very instructive. A cheap comprehensive Introduction is much to be desired, but for want of such, the student must be content with "Ingpen's Instructions," and "Westwood's Text Book."

There is no complete work on British Insects; the nearest approximations thereto are the large, expensive, and incomplete publications of Stephens—"Illustrations of British Entomology," 12 vols., £8 8s., (Bohn;) and Curtis' "British Entomology," 16 vols., £21. There is a Synopsis of the Genera of British Insects, appended to Westwood's valuable "Classification

of Insects," 2 vols., 18s. (H. Bohn.) The writer has a grateful recollection of "Samouelle's Entomologist's Useful Compendium," 18s.; if it can be purchased at half-price, and if the student will master its old Linnæan genera, he will find that knowledge an excellent introduction to the families of later Authors. Miss Catlow's "Popular Introduction to British Entomology," price 10s. 6d., is very suitable for young folks.

In the list of useful works on special orders of insects, "Spry and Shuchard's Outlines of British Coleoptera," 18s., contains a figure and description of one Beetle belonging to each genus; Stephens' "Manual of British Coleoptera," 12s., describes all the species then known; Murray's "Coleoptera Scotica," 2s., is a useful list (without descriptions) of the species which have been captured in that country; and a second-hand copy of Wilson and Duncan's "Entomologia Edinensis," (Coleoptera) 12s., is an excellent manual for the south of Scotland, being at once both introductory and descriptive. "Westwood's British Butterflies," 8vo. 15s., 1855, and Morris's work on the same, at 20s., are our best authorities; and Wood's "Index Entomologicus," new edition by Westwood, 8vo., with coloured plates, £4 4s., is, on the whole, perhaps the best work on British Moths.

Mr. Stainton has announced a very cheap work on those insects at 3d. per number, which will doubtless become the young naturalist's manual. There are several expensive illustrated works on this order, which are of little repute amongst modern authors. Amongst the older works the volume on Butterflies, 4s. 6d., in "Naturalist's Library," is worthy of notice, as it contains figures and descriptions of all the species; the volume on Moths is good, but only includes a very small proportion of the species. Smith's "British Bees," 6s., with a few plates and descriptions, is the standard work; and along with the other British Museum catalogues, can be procured from E. Newman, 9, Devonshire Street, Bishop Street, London. Two volumes on the Diptera, or Two-winged Flies, at £1 5s. each, have been published by L. Reeve, Henrietta Street, Covent Garden; and other works on our native insects are in course of preparation. Every student should, if possible, purchase the second edition of "The Entomologist's Annual" for 1855, and the volume for this year, 2s. 6d. each; both contain most valuable instructions for collecting different orders of insects, notices of useful books, and aids to progress, and the Editor, Mr. Stainton, gives many notable proofs of anxiety to forward this charming study amongst all classes of his countrymen.

How is the poor student to procure funds for the purchase of books and apparatus? The son of a rich man may meet with a refusal from his parents, but let him shew his earnestness by *persevering* in collecting with the simplest apparatus, and by never neglecting his studies, and by

denying himself every little luxury; such a course of conduct will sooner or later meet its reward. The son of the poor man and the working man must pursue the same course of self-denial; they should endeavour to induce a few companions to club together, and purchase Ingpen's "Instructions in collecting," and the simplest apparatus.

A ring for a net may be formed of four feet and a half of iron wire, a little thinner than a common pencil; fashion it into a hoop about thirteen inches in diameter, leaving about seven inches at each end of the wire to form a handle; fasten these in two grooves cut in a walking-stick, by means of a stout cord wetted, and tighten the latter by a nail or peg of hard wood used as a wrench, securing the whole with a string. A still cheaper style may be to take a stout walking-stick, bore two holes on the same plane, one foot apart, first with a small gimlet, then with a red-hot skewer; put an iron wire three feet long into the fire till it is red-hot, when cool it will bend nicely; pass it through the two holes in the stick, and tie or weld the ends together. A rattan cane, which costs a half-penny at the saddler's, if steeped in boiling water for an hour and slightly thinned down, fitted to the above is better for use than to pine after expensive apparatus: the stick across the ring need not be a grave objection.

There are three descriptions of net used; one of cheese cloth, fourteen inches deep, for water-insects; another of the same dimensions of stout unbleached cotton, for sweeping herbage; and the third a bag of white net or book muslin, with meshes wide enough to admit the passage of a pin's head, about twenty-seven inches deep, fashioned like a sugar-loaf, for all flying insects. These nets are sewed to the ring, and their removal is a tedious operation; but where expense is no object, a net-ring and handle like an angler's landing net, and a series of nets provided with welts, will admit of a ready substitution. Besides these nets, a *pocket* net may be made of thin copper wire, with a bag two and a half times the diameter; with such a tiny affair the writer has taken many good insects in his daily walks, not forgetting the ever ready forefinger and thumb *wetted* for the occasion if the capture is a Beetle.

An umbrella is useful for placing below bushes and hedges, for such insects as may drop down when these are beaten with a stick. For Beetles, a wide-mouthed bottle, about three inches high, with a cork fastened by a string, containing a little spirit of any sort; or else dry and furnished with several small pieces of blotting paper, and a cut leaf of the common laurel or some morsels of camphor; a few tin boxes or tubes for the larger kinds, and a few quills stopped at one end with wax and fitted with a cork, for the smaller species. Pill boxes, which can be purchased in nests or sets from the apothecary, but cheapest in packets con-

taining a dozen sets for sixpence from wholesale toy-men, are used for most other insects, except the Butterfly, which, when captured, is seized below the wings between a fold of the net, the body is smartly compressed by the thumb nail till dead, it is then lifted by the feelers by the right hand, placed between the finger and thumb of the left hand, and trans-fixed with a pin between the fore wings, until the point projects about a quarter of an inch below. It is then stuck in the collecting box, and the wings confined with a few braces, which are best carried in an old match box.

When bees and the larger flies are not boxed, then the captive is confined between the folds of the net on the collector's knee, and a pin is thrust between the wings; the hand is then passed into the net, and the pin's point is seized, and its head is drawn through the mesh of the net. To box an insect, secure it between a fold of the net, take a pill-box from the right-hand pocket, seize the lid between your teeth, place the handle of the net between your knees, push the net below the insect so as to confine it under one ply of the net, secure it with the left hand, then pass the lid forwards. A pin-cushion is made of four or five plies of flannel sewed between two cards.

Wooden toy-boxes can be purchased in nests at a reasonable price from wholesale toy-men—a suitable size may be selected for the pocket; or an old Seidlitz or ginger beer powder box; these may be strengthened by pasting slips of paper on the corners both inside and outside. If a suitable sheet of cork cannot be procured, cut bottle corks into pieces about a quarter of an inch square, and place them half an inch apart on the bottom and top of the box, if it is deep enough for that purpose, with a small bag of camphor, or, what is better, bruised laurel leaves pinned in a corner.

(To be continued.)

A DAY'S CONCHOLOGISING ON THE ISLET OF HERM.

BY W. V. GUISE, ESQ., F.G.S.

(Concluded from page 80.)

AMONGST the rocks were scattered numerous pools, whose sides, clothed with Algæ, afforded a refuge to other tribes, not less attractive and interesting. Here the *Lima* might be seen shooting through the water like a meteor, the bright scarlet of its branchial fringes in vivid contrast with the milk-white valves; while, disturbed by the intrusive net, strange ghost-like forms of Crustaceans darted from under the veil of sea-weed, and, half-seen for a moment, hastened to conceal themselves in the deepest recesses of the pool. It was in such a spot that I had the good fortune to effect by far the most remarkable capture which I made during my ex-

amination of this coast. I was endeavouring to catch, with a small hand-dredge, an individual of *Pecten varius*, which, with flapping valves, was flying to and fro through the water; when some shrimp-like animal of a vivid scarlet hue shot suddenly from beneath the sea-weed. I at once directed all my efforts to the capture of the stranger; and after a long hunt, having, as I thought, more than once lost him amongst the tangled streams of weed, I at length, (quite trembling with the excitement of the chase,) had the satisfaction of viewing the object of my pursuit safely netted. Touzeau called it the "red shrimp," and pronounced it scarce; for myself, as I surveyed its hue of brilliant scarlet, and the two large and powerful chelæ, I felt sure I had got a prize—probably *Alpheus ruber*, a Mediterranean species of extraordinary rarity in our seas. But when, at a later period, I had leisure to examine the specimen microscopically, and to compare it with the descriptions in the elaborate work of Milne Edwards, on the Crustacea, I had the satisfaction of finding that I was the fortunate discoverer of a new species of *Alpheus*, to which I gave the name of *Affinis*, an account of which will be found in the "Annals and Magazine of Natural History, vol. xiv. page 275.

The tide beginning to turn, we removed to a more sandy portion of the coast in search of the Mollusca which more especially affect an arenaceous habitat, (having previously provided ourselves with a spade for the purpose of digging for the burrowing species.) We made our way to the very verge of the returning tide, for the natural instinct of the burrowing Mollusca inducing them on the reflux of the tide to rise towards the surface to meet it, their discovery is thus rendered more easy. Nevertheless, in the case of those endowed with long syphons, it is by no means an easy matter to obtain them even when their presence is ascertained, as, by the aid of their muscular foot, they burrow downwards in the sand with such extraordinary rapidity, that, added to the difficulty of keeping the hole clear of water while digging, it requires no ordinary adroitness to take them, even after much practice, many being broken in the process, and many more escaping altogether. We were, however, successful in procuring several good specimens of *Lutraria oblonga*, an uncommon species, of which we were especially in quest; and an abundance of the following genera:—*Venus verrucosa*, which abounds on this coast, and occupies the place as an edible mollusk that the Cockle does among ourselves; this latter, *Cardium edule*, being rather scarce. *Psammobia vespertina*, *Tellina crassa* and *donacina*, *Tupes virginea* and *aurea*, *Artemis exoleta*, &c.; of *Venus casina*, we took only one example. The curious Sea Mouse, *Aphrodite aculeata*, was abundant; and amongst the crustacea *Thia polita* and *Pirimela denticulata* were obtained; both uncommon—the former rare.

I here bring to a close this record of a day's naturalizing at Herm, not without a hope that what I have written may induce other lovers of Natural History to explore a locality which offers unusual facilities for the study of Marine Zoology; and which would, I feel assured, richly reward any one going thither with proper appliances and means, and having sufficient leisure to devote to a thorough investigation of the ground.

In conclusion, I would merely add as a hint to those who may follow my footsteps, that, having an eye to creature comforts, which I have shewn do not abound in Herm, I would advise that a bottle of Harvey's Sauce and a pot of Cocoa Paste should form part of the travelling equipage of the visitor; armed with which concomitants, he may dine well of boiled Bass, and defy the acrid flavour of mine host's coffee.

Annexed is a list of our principal zoological captures, whether by hand or dredge:—

MOLLUSCA.

<i>Thracia phaseolina</i> ,	<i>Lucina lactea</i> ,	<i>Chiton asellus</i> ,
<i>Psammobia vespertina</i> ,	<i>Kellia suborbicularis</i> ,	“ <i>lævis</i> ,
<i>Tellina crassa</i> ,	<i>Galeomma Turtoni</i> ,	<i>Acmæa virginea</i> ,
“ <i>donacina</i> ,	<i>Mytilus barbatus</i> ,	<i>Calyptrea sinensis</i> ,
“ <i>tellinella</i> ,	<i>Arca tetragona</i> ,	<i>Fissurella reticulata</i> ,
<i>Donax politus</i> , (very rare,)	“ <i>lactea</i> ,	<i>Emarginula reticulata</i> ,
<i>Lutraria oblonga</i> ,	<i>Pectunculus glycymeris</i> ,	<i>Trochus exiguus</i> ,
<i>Tapes pullastra</i> ,	<i>Nucula nucleus</i> ,	“ <i>striatus</i> ,
“ <i>virginea</i> ,	<i>Lima hians</i> ,	“ <i>umbilicatus</i> ,
“ <i>aurea</i> ,	<i>Pecten varius</i> ,	<i>Natica nitida</i> ,
<i>Venus verrucosa</i> ,	<i>Anomia ephippium</i> ,	<i>Murex corallinus</i> ,
“ <i>casina</i> ,	“ <i>striata</i> ,	<i>Haliotis tuberculata</i> ,
“ <i>fasciata</i> ,	<i>Chiton discrepans</i> ,	<i>Cypræa europæa</i> .
<i>Artemis exoleta</i> ,	“ <i>cinereus</i> ,	

CRUSTACEA.

<i>Xantho rivulosa</i> ,	<i>Portunus puber</i> ,	<i>Pisa Gibbsii</i> ,
<i>Pilumnus hirtellus</i> ,	<i>Thia polita</i> ,	<i>Galathea strigosa</i> ,
<i>Primela denticulata</i> ,	<i>Ebalia Pennantii</i> ,	<i>Alpheus affinis</i> , (new sp.)
<i>Porcellana platycheles</i> ,		

ECHINODERMATA.

<i>Ophiura texturata</i> ,	<i>Asterina gibbosa</i> ,	large.)
<i>Ophiocoma rosula</i> ,	<i>Palmipes membranaceus</i> ,	<i>Echinocyamus pusillus</i> .
<i>Solaster papposa</i> ,	<i>Echinus sphæra</i> (unusually	

ZOOPHYTA.

Gorgonia verrucosa, dredged in deep water, (unusually fine.)

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 90.)

ORDO III.—CHEIROPTERA.

FAMILIA I.—FRUGIVERA.

PTEROPUS.

- Pteropus edulis*, Geoff. Schinz. P.
Javaicus, Horsf. Temm.
Pteropus jubatus, Eshh. Schinz. P.
pyrrocephalus, Meyer.
Pteropus Edwardsii, Geoff. Schinz.
Pteropus Assamensis, Schinz.
Pteropus funereus, Temm. Schinz.
Pteropus phaiops, Temm. Schinz.
Pteropus poliocephalus, Temm. Schinz.
Pteropus chrysoproctus, Temm. Schinz.
Pteropus Macloti, Temm. Schinz.
Pteropus dasymallus, Temm. Schinz.
P. rubricollis, Sieb.
Pteropus pselaphon, Temm. Schinz.
Pteropus vulgaris, Geoff. Schinz. Ves-
 pertilio *Vampyrus*, Linn. V. mau-
 ritianus, Commers.
Pteropus rubricollis, Geoff. Schinz. P.
collaris, Lich. P. *fuscus*, Briss.
 Vespertilio *Vampyrus*, Temm.
Pteropus alecto, Temm. Schinz.
Pteropus pallidus, Temm. Schinz.
Pteropus keraudrenius, Schinz. P.
marianus, Desm.
Pteropus tonganus, Temm. Quoy et
 Gaimard. Schinz.
Pteropus Vanicorensis, Temm. Quoy
 et Gaim. Schinz.
Pteropus Dussumieri, Geoff. Temm.
 Schinz.
Pteropus griseus, Geoff. Temm. Schinz.
Pteropus personatus, Temm. Schinz.
Pteropus labiatus, Temm. Schinz. P.
 Whitei, Ben. P. *epimophorus*, Ben.
Pteropus schoensis, Rüpp. Schinz.
Pteropus stramineus, Geoff. Temm.
 Schinz.
Pteropus Geoffroyii, Temm. Schinz.
P. Ægyptiacus, Fisch. Geoff.

- Pteropus Leschenaultii*, Desm. Temm.
 Schinz.
Pteropus amplexicaudatus, Geoff. Temm.
 Schinz.
Pteropus Hottentottus, Temm. Schinz.
Pteropus Leachii, Temm. Schinz.
Pteropus marginatus, Geoff. Temm.
 Schinz. *Cynopterus marginatus*,
 F. Cuv.
Pteropus titthaechæilus, Temm. Schinz.
Pachysoma tittaechæilus, Temm.
Pteropus brachyotis, Schinz. *Pachy-*
soma brachyotis, Mull.
Pteropus brevicaudatus, Schinz. *Pa-*
chysoma brevicaudatum, Mull. Temm.
Pteropus Diardi, Schinz. *Pachysoma*
Diardi, Geoff.
Pteropus ecaudatus, Schinz. *Pachyso-*
ma ecaudatum, Temm. *Megæra*
ecaadata, Mull.
Pteropus melanocephalus, Schinz. *Pa-*
chysoma melanocephalum, Geoff.
 Temm.
Pteropus Gambianus, Ogilby, Schinz.
Pteropus macrocephalus, Ogil. Schinz.
Pteropus pyrrocephalus, Schinz.
Pteropus argentatus, Gray, Schinz.

MACROGLOSSUS.

- Macroglossus minimus*, Temm. Schinz.
Pteropus minimus, Geoff. P. *ros-*
tratus, Horsf.

HARPYIA.

- Harpyia Cephalotes*, Schinz. H. *Pal-*
lasii, Temm. *Cephalotes Pallasii*,
 Geoff. Vespertilio *cephalotes*, Pall.

HYPODERMA.

- Hypoderma Peronii*, Schinz. H. *mo-*
luccensis, Quoy et Gaimard. *Ceph-*
alotes Peronii, Geoff. Fisch. *Ptero-*
pus palliatus, Geoff.

FAMILIA II.

CHEIROPTERA ENTOMOPHAGA.

DYSOPES.

- Dysopes Savii*, *Schinz.* *Dinops Cestoni*, *Savi.*
Dysopes Rüppellii, *Temm. Schinz.*
Dysopes Geoffroyi, *Schinz.* *Nyctinomus Ægyptiacus*, *Geoff.* *Molossus Ægyptiacus*, *Fisch.*
Dysopes pumilus, *Geoff. Rüpp. Schinz.*
Dysopes torquatus, *Schinz.* *D. cheiropus*, *Temm.* *Cheiromeles torquatus*, *Horsf.* *Molossus cheiropus*, *Less.* *M. torquatus*, *Fisch.*
Dysopes plicatus, *Schinz.* *Nyctinomus Bengalensis*, *Geoff.* *Vespertilio plicatus*, *Buchanan.*
Dysopes tenuis, *Schinz.* *Nyctinomus tenuis*, *Fisch.*
Dysopes dilatatus, *Schinz.* *Nyctinomus dilatatus*, *Horsf. Less. Fisch.*
Dysopes Alecto, *Schinz.* *Molossus ursinus*, *Spix.*
Dysopes perotis, *Schinz.* *D. rufus*, *Temm.* *Molossus rufus*, *Geoff.*
Dysopes rufo-castaneus, *Schinz.* *Molossus nasutus*, *Spix.*
Dysopes abrasus, *Temm. Schinz.*
Dysopes nasutus, *Temm. Schinz.* *Nyctinomus Braziliensis*, *Geoff.*
Dysopus velox, *Temm. Schinz.* *Molossus tropidorhynchus*, *Gray.*
Dysopes fumarius, *Spix. Schinz.* *Molossus obscurus*, *Geoff.*
Dysopes laticaudatus, *Schinz.* *Molossus laticaudatus*, *Geoff.*
Dysopes cæcus, *Schinz.* *Molossus cæcus*, *Rengg.*
Dysopes crassicaudatus, *Schinz.* *Molossus crassicaudatus*, *Geoff.*
Dysopes castaneus, *Schinz.* *Molossus castaneus*, *Geoff.*
Dysopes macrotis, *Schinz.* *Nyctinomus macrotis*, *Gray.*
Dysopes moxensis, *Schinz.* *Molossus moxensis*, *D'Orbigny.*
Dysopes rugosus, *Schinz.* *Molossus rugosus*, *D'Orbigny.*
Dysopes longicaudatus, *Schinz.* *Molossus longicaudatus*, *Geoff.* *Vespertilio molossus*, *Pall.*
Dysopes amplexicaudatus, *Geoff. Schinz.*
Dysopes fusciventer, *Schinz.*
Dysopes acuticaudatus, *Schinz.* *Molossus acuticaudatus*, *Desm.*
Dysopes ater, *Schinz.* *Molossus ater*, *Geoff.*
Dysopes fuliginosus, *Schinz.* *Molossus fuliginosus*, *Gray.*
Dysopes Norfolkensis, *Schinz.*
Dysopes thyropterus, *Schinz.*
Dysopes ferox, *Schinz.* *Molossus ferox*, *Pop.*
Dysopes longimanus, *Wag. Schinz.*
Dysopes leucopleura, *Natt. Schinz.*
Dysopes glaucinus, *Natt. Schinz.*
Dysopes holosericeus, *Natt. Schinz.*
Dysopes albus, *Natt. Schinz.*
Dysopes auritus, *Natt. Schinz.*
Dysopes gracilis, *Natt. Schinz.*

(To be continued.)

Miscellaneous Notices.

The Peregrine Falcon.—On December 26th. last, a beautiful male Peregrine Falcon was shot by a friend of mine, in a field not a hundred yards from the house in which I was staying, at Neatishead, in the county of Norfolk, at about two o'clock in the afternoon. It is not twelve months

since a beautiful Goshawk was shot within half a mile of the same place. The Falcon was presented to me, and has been preserved.—M. C. COOKE, Trinity Church Schools, Carlisle Street, Lambeth, January 26th., 1856.

The Great Bustard, (*Otis tarda*.)—A female of this species was shot in a turnip field, near Lee's Hill, Kingswater, near Brampton, on the 8th. of March, 1854.—T. ARMSTRONG, 10, Barwis Court, English Street, Carlisle.

Common Bittern, (*Botaurus stellaris*.)—A fine specimen of this bird was shot on Todhill's moss, four miles from Carlisle, by the gamekeeper of G. G. Mounsey, Esq., on the 6th. of January, 1856.—Idem.

The Eider Duck, (*Anas mollissima*.)—A female bird was shot on the 15th. of November, 1855, close to Hest Bank Station, and is now in my possession; it was shot on the break-water in Morecombe Bay.—Idem.

The Spotted Crake, (*Crex porzana*.)—One old bird and two young ones were shot on the 7th. of September, on Monk-hill Lough, one of which fell into my hands.—Idem.

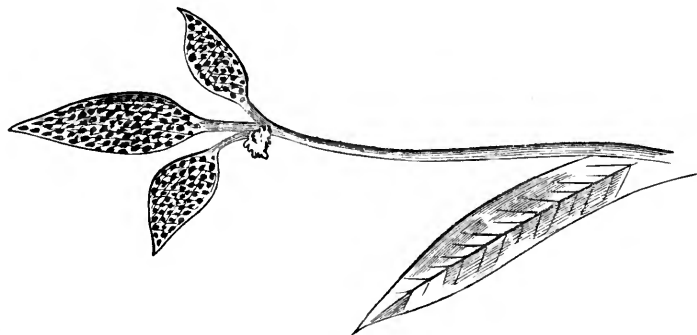
Common Scoter, (*Anas nigra*.)—A male of this species was shot on the 23rd. of February, 1856, at Port Carlisle.—Idem.

Two or three parties in our neighbourhood have caught the Common Crossbill, and who have it in confinement, and find it very tractable; they feed directly, and will drink out of a cup like a bird that has been years in the cage. One party opens the cage door and lets the bird out; it climbs about the outside of the cage, similar to a Parrot.—Idem.

Scarcity of Birds about Richmond.—Seldom has a winter past with fewer records of rare feathered visitors; even the Lesser Redpoles, and other small birds, which are during the dead months usually to be seen in this neighbourhood in large flocks, are totally wanting; neither do the Yellow Buntings and Chaffinches congregate in such numbers as usual. I have generally been able to record some of the rarer of the *Anatidæ* having been taken or killed here in the months of December or January, but this year I am unable to do so, for, with the exception of a Golden Eye, seen on the Swale in the latter end of November, no mention whatever of Ducks has reached me. A small flock of Crossbills were seen last week a few miles above Richmond; and a pair, male and female, were killed. I quite agree with you in considering that Haws are this year unusually numerous, and also much brighter in colour than usual. I made the same remark with regard to the berries of the holly.—HENRY SMURTHWAITE, Richmond, Yorkshire, February 3rd., 1856.

The Myrtle Bee.—In the April number of the fifth volume of "The Naturalist," a paper under the above title appeared from my pen, the result of a communication made to the "Notes and Queries" on the sub-

ject of a "nondescript bird" noticed some years ago, in some marshy ground forming part of what, two years since, was the Guards' quarter in the Camp at Chobham. In the July number, page 152 of that volume, a communication appeared from Mr. J. S. Walker, of Porchester Square, London, on the subject, and speaking from personal experience of a bird similar in appearance and habits which he had met with in Australia. Matters of pressing import at that time prevented my paying particular attention to the subject; but in collecting my numbers for the binder, and with more present leisure, it now recurs to my mind that, some years since, I had a number of Australian bird skins given to me, and amongst the rest the bird in question, namely, the Emeu Wren, and I think now in my brother's possession as a stuffed specimen, exactly answering Captain Brown's description; a vivid idea of which was ever and anon floating through my brain, but which, like many other such ideas, I have not until now been able to realize; although, all the time Captain Brown was relating the circumstance, I was considering when and where I had met with such a creature. My impression, however, is, that the bird I speak of was not quite so small as the Captain describes, and that its plumage, instead of sooty black, was what painters call "vandyke brown." The valuable addition made by Mr. J. S. Walker, to the account of its habits, makes it highly probable that the birds are the same, though whether now extinct in this country remains to be seen.—O. S. ROUND, Pembroke Square, Kensington, February 5th., 1856.



Malformation of Plantago lanceolata.—In the February number of "The Naturalist," page 45, the accompanying engraving of a curious variety of *Plantago lanceolata*, was unfortunately omitted; so that a very common plant was erroneously made to appear as if considered a rare one. The remark was intended to refer to the malformation, not to the plant itself.
F. O. MORRIS.

Review.

Taxidermy made Easy; being Plain and Practical Directions for Preserving, Setting up, and Embellishing in the most approved style, all kinds of Quadrupeds, Birds, Fishes, Reptiles, Insects, etc., with Notes and Illustrations. By JOHN TYRER, Taxidermist, Chatham, Kent. Price 2s. 6d. Sold at 52, High Holborn, London.

I REMEMBER, many years ago, seeing this book, or some one with a similar title, adverted to, and being puzzled at the time to know what "Taxidermy" meant. Miss Edgeworth, in one of her works, observes that there may possibly be within the compass of the civilized world, though no school-boy will believe in the possibility, some individual so barbarously ignorant as not to know the meaning of the word *fag*; she accordingly gives the unlearned the meaning, as derived from the Latin *fatigo*—to weary. As there may, in like manner, be some one ignorant, in common with myself once, of the meaning of the present word, I beg leave to state that it is derived from two Greek words—*tasso*—to set in order, and *derma*—a skin. The title, then, of the book bespeaks the nature of its contents; and I have only further to observe that there are many valuable receipts given in its pages, and instructions in the art. Mr. Tyrer is evidently no Tyro in it.

Proceedings of Societies.

The London Working Entomologists' Society held their second meeting this season on Wednesday Feb. 6th., at 52, High Holborn, R. G. Schofield, Esq. Vice-President, in the chair, when Edward Newman, Esq. was elected a member.

A new and novel description of larva box was exhibited; also two boxes of Insects captured last season; among them were a few novelties.

The Querist.

Hips and Haws.—What are Hips? The ripe fruit of the rose is so called. The Conserve of Hips (*Conserva Rosæ Caninæ*) of the apothecary is made from the pulp of the Hips, deprived of the hairs and boiled with sugar.—J. P. FERNIE, Kimbolton, March 1st., 1856.

"Hips and Haws."—*What are Hips?*—The question asked in "The Naturalist" for the present month is answered in that volume which is a compendium of all philosophy, of many facts, and of not a little natural history—Shakspeare. In "Timon of Athens," (Act iv. Scene 3,) that noble Athenian rebukes the thieves, when they plead want, by reminding them—

"Behold the earth hath roots;
Within this mile break forth a hundred springs;
The oaks bear mast, the *briars* scarlet *hips*."

The question, "What are Hips?" is therefore easily answered:—they are the fruit of the wild rose. But there is an episode connected with this subject which has few equals in the history of words and the blunders of commentators. Dr. Johnson, in his folio Dictionary, gives the following definition:—

"HEPS—Hawthorn berries, commonly called Hips;"

with the inconsistent quotation*—

"In hard winters there is observed great plenty of heps and haws, which preserve the small birds from starving."—*Bacon*.

Now, as *haws* are, beyond all question, the berries of the *hawthorn*, Dr. Johnson ought to have seen that heps could not also be "hawthorn berries," or Bacon would have written "heps or haws," instead of "heps and haws." And as this quotation from Bacon appears to have monopolised the attention of most Dictionary-compilers, (to the exclusion of the more apposite one from Shakspeare,) they have made some singular guesses as to what "hips" are, seeing that they are not "haws." In the 8vo. edition of Bailey's Dictionary (London, 1733) are the following definitions:—

"HAW (of Hagan, Sax.)—A sort of berry, the fruit of the white-thorn."

"HIP, HEP (Heope, Sax.)—A berry, the fruit of the large bramble."

But as the bramble is the *black*-berry, and as heps are *scarlet*, Guess No. 2, was no nearer the mark than Dr. Johnson's. Dyche's Dictionary supplies another supposition equally unsatisfactory in a double definition of the word in question. Defining "haw" as "the fruit of the white-thorn tree or bush," he gives—

"HIPS—The berries or fruit of the large bramble."

"HEPS or HIPS—The fruit of the black-thorn tree."

Scott's Folio edition of Bailey (Lond: 1755) gives the four following definitions of "Hips and Haws:"—

"HIP (Heopa, Sax.)—The fruit of the briar or dog-rose." "Store of haws and hips."—*Bacon*.

"HEPS or HIPS.—The fruit of the black-thorn shrub, commonly written hips."—*Bacon*.

"HAW (Hag, Haeg, Sax.)—The berry and seed of the hawthorn."

"HAW (Hagan, Sax.)—A berry, the fruit of the white-thorn."

Here we find the true account given in the first case as to the thing itself, and in the second as to its relative orthography and pronunciation. Derived from the Saxon Heopa, the word is almost universally pronounced *hep*, but written *hip*. Whereas Dr. Johnson, not content with the egregious blunder that hips are haws, spells the word *heps*, but tells us the berries

* I cannot see the inconsistency here; the quotation could only properly be made in its entirety. The reference is to be made by the reader, only *quoad* it applies, namely, to the heps.—F. O. MORRIS.

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O LORD, how manifold are Thy works! in wisdom hast Thou made them all: the earth is full of Thy riches.—PSALM civ., 24.

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* * * Correspondents are particularly requested to write the names of persons, places, and things VERY DISTINCTLY.

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EXTRACTS FROM CORRESPONDENCE WITH A BROTHER NATURALIST

BY F. M. BURTON, ESQ.

(Continued from page 232, vol. v.)

As you have no duck decoys in your neighbourhood, the following account of one of the few left in the fens of Lincolnshire may not prove uninteresting. Imagine a fine winter's morning, with a brisk wind and sharp frost, but not too cold to congeal the water, and all just ready to start, the Flapper having previously ascertained that a flight of Ducks came in over-night. About three or four hundred yards from the house is a tall thick plantation, in the centre of which lies the decoy—a narrow winding sheet of water covering about seven acres, in shape something like a curved kidney-bean, with one end divided into five points. Leading to this pond are several very narrow winding foot-paths through the plantation, capable of admitting only one person at a time. Down one of these paths the whole party starts, preceded by the Flapper or Driver as he is sometimes called, dressed from top to toe in scarlet, with huge flaps of cloth of the same colour depending from his arms. Each person carries a piece of lighted turf to his nose, to keep the Ducks from scenting him, so accurate is their sense of smell.

On approaching the brink of the pond, which is enclosed all round with a thick barrier of rushes, the Flapper, having cautiously ascertained whereabouts the birds are lying, rolls over the bank a piece of bread, which is immediately followed by a little dog trained for the purpose; and as soon as the decoy Ducks see him they make straight for him, leading on the wild birds to a concealed net at the head of the pond. The Flapper having by this method once or twice repeated, according to the distance of the birds from the netting, drawn them up to one of the heads of the water, goes quickly to a place a little distance down, where he can see the Ducks and be seen by them, and commences jumping and shaking his large red flaps about like a madman. The decoys immediately on the given signal dive, and leave their unfortunate dupes alone, with their heads turned towards the mouth of the netting, into which they invariably fly, not being able to turn round quick enough to make their escape, on account of the shortness of their tails.*

The owner of this decoy has a peculiar method of catching Rabbits, by a broad plank of wood placed over a pit, on which turnips are laid for the animals to feed on; and when a sufficient number is collected on the top, a man concealed in a thicket near, pulls away the wood from the mouth of the hole by a rope, and the Rabbits fall in. This plan is

* The correctness of this suggestion is, I think, problematical.—F. O. MORRIS.

adopted in various parts of Lincolnshire, but on a better principle. The machine consists of a piece of wood turning on a pivot, and precipitating the Rabbit treading on it by its own weight to the bottom.

To-day I have been for my first spring observation-walk as I call it, not that I ever allow myself to walk without taking notice of facts presenting themselves connected with nature, but for some years past I have always at this season been in the habit of following two or three times in the week one particular track, which, from the advantages it affords for observing the various changes from winter to spring, is a favourite haunt with me. My route lies across some fields to one of the prettiest brook streams this county possesses, and where in the winter season I occasionally shoot a Wild Duck or Wigeon. At this time of the year, however, one cares not to kill; but, laying aside all those destructive propensities so inherent in our nature, we regard the feathered tribe, even Partridges, Pheasants, and Wild Ducks with a friendly interest, and almost wonder how we can at other times wage such determined war against them, and call it sport.

About a mile from home a steep-hanging bank with trees of various kinds, and plenty of underwood and brushwood overlooks the brook; and as this spinney faces the east, it is a place of great resort for all sorts of birds, which always prefer woods with eastern or south-eastern aspects, as they have in them all the morning and much of the midday sun. At this place I have generally first noticed the arrivals of the summer birds; but it is yet too early for many of them to come over. Under this bank, along the brook side, my dog had great fun with the numerous Water-hens which inhabit the thick segs hereabout; it was very amusing to watch her come up to a spot where one of these birds was hiding itself underneath the bank; she would stand for some time as if in doubt whether or not to plunge into the water after it, or to try and scratch through the earth and reeds; but her deliberation generally ended with a plunge, invariably without success, the bird diving immediately it heard the splash. I had here a good opportunity of watching one of these birds as it dived up the stream close by the side of the bank for some distance; and as the water was as clear as crystal, I could see very distinctly the 'modus operandi.' It propels itself almost entirely by great exertion of the wings; it appeared a very great effort to it to keep beneath the surface, and the legs, though they did go through the movement of swimming, did not seem to assist its progress much, but probably helped to keep its course straight. You may find plenty of Water-hens' nests along this brook in May or sometimes earlier; they generally lay six or seven eggs, though I have often known more, and once met with a nest with fourteen eggs, which I have no doubt were the produce of two birds. Their nests are more frequently

built in the segs, but often in the hawthorn bushes three or four feet above the water.

Wood-pigeons were cooing in all directions, and have become suddenly almost tame, not keeping so much in flocks, but one or two flying out of almost every tree; several came within easy gun-shot of me—how different this boldness from their extreme caution at other seasons. I heard, too, the hoarse laugh of the Green Woodpecker for the first time to-day; they are mute and sulky during the winter, they have then enough to do to maintain themselves; but now they appear quite lively, and fly about with their peculiar wavy motion from one tree to another, laughing with delight at the thought that insect food will so soon abound again, and furnish sustenance for themselves and young. I cannot say that their note is a pleasing one, but still I like to hear it; it is the voice of a bird, and reminds one of returning spring.

Farther on in my walk, having crossed the brook at the mill, and returning towards home on the other side, I came to a Rookery which has existed probably from the “time whereof the memory of man runneth” not to the contrary; the nests are always built in the very highest branches of some noble old elms, and never lower down than some ten or a dozen feet from the top, the consequence is, that, as in the old Rookery at Rugby, the first high wind destroys the work of weeks, blowing many nests quite out of the trees, and overturning many more.

I was much pleased with the account in your last letter of your first spring walk; I took mine a few weeks back, and though the season was then not very far advanced, yet I trust you may think some of the incidents I met with worthy of a passing note. I took the train to a village about six miles distant, and started off through some woods, which stretch around for a great distance, principally oak and fir, and abounding with interest in all the branches of our kindred pursuit. Here, while walking on the sunny side of a small bank, I heard a slight rustling at my feet, and on looking down observed a little mouse running and snuffing about the green leaves; presently it broke off one from a piece of ground ivy, and disappeared with it in its mouth down a hole, pleased enough no doubt at having found so soft a lining for its nest; this was repeated several times while I was standing close to.

A little further on I came to the nest of the large Red Ant, (*Formica rufa*), a great pest in these woods. The nests of these little creatures are wonderfully large considering their size, composed of dried leaves, sticks, straws, and rubbish; they sometimes attain the height of four feet and upwards. All day long in the warm summer season, those Ants may be seen incessantly toiling in a straight line up and down the stems of the oak or fir trees near, seizing on any luckless fly that may happen to settle

in their path, or carrying home any little bit of stick or rubbish they may meet with for the repairs of their vast dwelling, which is continually getting injured by the summer showers and "other inevitable accidents."

The nest in question was only about two feet high, and about six round the base; and it being a fine warm sunny day, the Ants, like the people we read of in Eastern story, had all come out for an airing on the roof; there they lay all perfectly still, one over the other, enjoying what Kirby calls "the height of formic felicity"—an idle listless day of sunshine. Poor things! they are not often accused of idleness, and by this time they have no doubt commenced their daily toil in right good earnest, bringing up their pupæ during the day near the surface, to catch the warm rays of the sun, and collecting materials to repair the inroads of the winter months.

Seeing the dark mass thus congregated together, I gently inserted my stick underneath, and caused the ground to quake, and what a hubbub followed; where everything had just before been quiet all was now in confusion, but in an incredibly short space of time, scarcely an Ant was to be seen, all had vanished down the subterranean passages of their curious abode, and soon no signs of life were visible, except here and there when an occasional sentry ran with the utmost speed from one entrance to another, as if the entire safety of the citadel depended upon its individual exertions.

There were but few moths out. *Orporabia tortricella* was very abundant, flying about the tops of the young oak saplings in the broad sunlight; there were also a few of *Diurnea fagella* on the trunks of the trees. I also took several of the Yellow-horned Moth, (*Cer-Flavicornis*,) and one fine specimen of *Biston prodromarius*, just emerged from chrysalis. On my way home, whilst walking by the side of a ditch half-full of water, I roused a snake, which, on my attempting to catch it, plunged at once into the water, and hid itself among the grass and reeds growing at the side. On coming to the low lands I saw a few Hooded Crows still left, most of them had taken their departure; before they went I was struck with the singular change in their note, which usually resembles that of a Raven, only not quite so hoarse; but now they uttered a cry exactly like the short sharp bark of a terrier dog, repeated two or three times in succession. These birds assemble here in the month of October, and go away again about the end of March; during the time that they are with us they are sometimes to be seen singly, and sometimes in flocks of from ten to fifty, according to the amount of carrion to be consumed. I once saw an immense number slowly flying up the river, and every now and then some kept darting out of the flock to the water, endeavouring to catch the pieces of stray offal that were carried past by the stream. The

season at that time was very severe; we had had a long dry frost, and they were compelled no doubt to seek their food in this way, being unable to find their usual sustenance on the hard stony ground.

Uppingham, October 10th., 1855.

(To be continued.)

AMATEUR NATURALISTS.

BY MR. PASS BALSHAW.

PERHAPS no study is more fascinating than the study of Natural History. Apart from the technicalities connected with the systematic and scientific investigation of Nature, how charmingly is time spent when devoted to the examination of the various objects of creation. What lofty emotions can a single insect excite in our breast. With what wonder and astonishment will a reflecting mind be filled by the appearance, the existence, and the formation of the meanest of God's creatures. The life in Nature, extending from the huge beast of the forest, down to animalculæ so minute as to require the human eye to be aided by intense magnifying power ere they in the least become discernible, is indeed wonderful and past comprehension, and ought to raise our minds to inquire concerning Him who is the giver of life. The study and analization of such objects are not the work of the Professor at the University alone, neither are they to be confined to the student who sits at his feet. Nature's calls are universal. The flower of the field, the bird of the air, the fish of the sea, the creeping thing that creepeth on the face of the earth, are no respecters of persons. All may study their habits, examine their peculiarities, and admire their beauty. The majestic sun traversing the canopy of heaven, pours forth his genial beams alike for peasant and king, gilds and beautifies the face of creation alike for master and slave.

We rejoice to see the study of Natural History becoming increasingly popular in the Collegiate Chair and the Lecture Hall. We want, however, to see not only more Professional Naturalists, but more Amateur Naturalists. We want every working man to have a taste for the sublime and beautiful in Nature. Can we attentively observe in a manufacturing town the operative, as he hurries to the bewildering, and almost brain-turning jar of the factory, without feeling how injurious such confining labour must be, unless counteracted by some other pursuit during leisure hours. What the nature of that pursuit should be is immensely important to the labourer, important physically, important mentally. With pity and disgust we see thousands rush to the gin-shop to recruit, as they madly think, their wasted strength and worn-out frames with the mocking raging cup. It needs no

argument to prove the folly of such a course. Instead of deriving health of body and peace of mind, the slaves to drink awake in the morning with a debilitated frame, and a craving thirst for more stimulants; and thus, in a few years, if their recreations are not sought in another channel, they reap the fruit of their folly in a drunkard's premature grave. How then should the hard-toiling operative's leisure hours be spent? I answer, in some pursuit that will strengthen the body, while at the same time it exercises the mind.

Can any pursuit be found calculated to accomplish these two ends?—Yes!—The practical study of Natural History offers to furnish the boon. In order to this practical study of Nature, we are called away from the smoky chimney and the filthy, death-harbours alley. The green field becomes our resort for recreation. The sweet notes of the feathered songsters fall melodiously on our ears, instead of the lewd language so universal in town-life. The fresh, bracing, country air thus refreshes and invigorates our bodies, while at the same time our mental faculties are strengthened, our minds expanded, by the contemplation and study of the various objects around us, and by the lofty ideas imparted to us by the grandeur of Creation.

Could we induce working men to adopt the study of Natural History in a practical manner, we should feel assured they would be better fitted for their daily employment, and have an increasing desire for the society of the learned and the good. As a proof of the delights the study of Natural History can afford, I just give a sketch from the journal of one who was my bosom friend, but has now passed away from earth. He was an enthusiastic admirer of Nature. Many happy hours have we spent in the field and the wood in search of specimens in Botany, Ornithology, Entomology, etc. He was, moreover, the contributor to the first volume of "The Naturalist" of the article on "The Habitat, etc., of the Black-headed Gull." Listen to his own words.—

"I have this afternoon been a somewhat extended walk into the country; the first taste of the truly rural which I have for some time enjoyed. (He was at this time a marked victim of consumption.) And truly it was enjoyment again to tread the soft green turf, spangled over with golden dandelions, yellow buttercups, and meek-eyed white and purple daisies. Here and there too the pastures were gay with lilac cardamines, and the sides of the ponds glittered with a bright display of marsh marigolds, while on their surface sparkled the star-like beauteous forms of the meadow crow-foot. The birds on every hand were warbling their sweetest, joyfullest lays, in glad recording of the return of bright and pleasant spring. But what is all this loveliness, this beauty, this life! without the soul in lofty aspiration can see God in it. Tell me of no lover of Nature, in the highest,

truest sense of such a term, except the man who can look up to the reconciled face of his Father. I may admire a statue, a painting, or some other work of art, but I cannot love it; so God's works may be admired by all His creatures, but only His children can love them."

That these few scanty remarks may induce some of the talented contributors to "The Naturalist," to bring the benefits resulting from the study of Natural History more prominently before the working classes, and thus cause them to study for themselves, is the earnest wish of the writer.

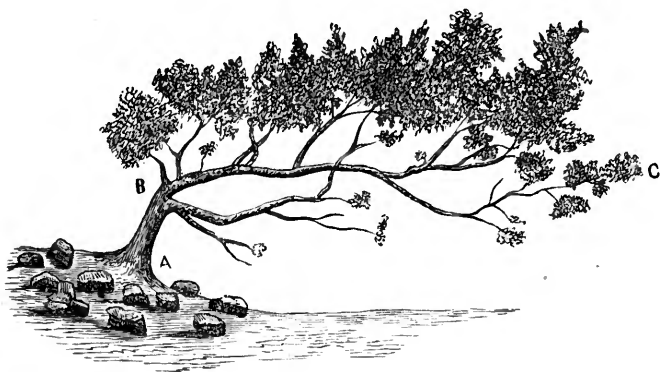
Airdrie, January 25th., 1856.

INQUIRY FOR THE NATURALIST.

HAVING for some years past observed in this neighbourhood the growth of the tops of some sorts of trees in high exposed situations, greatly inclining to the eastward, indeed I may say in most cases due east, and not being able satisfactorily to account for this phenomena, I venture to call your attention to it, thinking some of your scientific readers may kindly solve my difficulty.

These trees grow at an elevation of from five hundred to one thousand feet above the sea, and at a distance of about twenty to twenty-five miles in a direct line from the shore of the Irish Sea, in the Bay of Morecambe.

One of the most remarkable with which I am acquainted, (an Ash,)



is now growing about ten chains, or two hundred and twenty yards, north of the village of Feizor, near Settle; on the north side of the tree is a low limestone scarr, (cliff,) from the base of which the ground dips to the south, the upper part of the slope being covered with small loose stones, from amongst which the Ash grows; the main stem is three feet three

inches in circumference, and rises nearly perpendicular (from A to B) to the height of five feet six inches; after which the top turns in nearly a horizontal direction, and due east, (from B to C,) the additional length of thirty feet six inches. I think it is not exposed more to west winds than to those from the east, as one is as prevalent as the other.

The different sorts of trees in which this tendency of the top towards the east is to be observed, are the ash, oak, larch, birch, hawthorn, and some others. I remember a larch, which grew on the west side of a highway, eight yards wide, the top of which reached to a perpendicular line drawn from the east side of the road.

RICHARD CLAPHAM.

Austwick Hall, near Settle, Yorkshire, Nov. 27th., 1855.

HINTS TO INSECT COLLECTORS.

BY TAXUS.

(*Concluded from page 111.*)

A FEW words must suffice for the best localities for insects. For beetles place a white cloth on the grass in a wooded glade in the sun, or put a lantern on it in a dark night; sink jars containing a bit of flesh in the earth; sweep herbage by day, and by night put the contents of the net into a little bag; collect moss and lichens in winter, and place them on a sheet of white paper in a warm room; examine the bark of trees, rotten wood, flowers, mushrooms, etc., and all animal and vegetable substances going to decay. Look below planks and stones, on land and in the water, and on wall tops; examine the margins of pools, rivers, and wet places, especially in the spring, stamping violently on the ground; also aquatic vegetation, and drag the pools. Search everywhere and at all seasons; even in mid-winter pools may be dragged, and moss and rotten trees broken up and carried home.

Moths are attracted by a lantern carried before the collector in woods, by lights in a room, by empty bee-hives and sugar casks, by a mixture of one pound of brown sugar boiled to a syrup in beer, and flavoured with a glass of rum; this daubed into trees growing on the margin of a wood, about the height of the eye, with a sixpenny paint-brush, marking the trees with chalk. A lantern, which may cost four shillings, besides two leather straps to carry it, and leave the hands free to secure the intoxicated moths at the sugar by placing a pill-box over the insect and gently moving the box until the former creeps in. The flowers of the honeysuckle, willow, ivy, and other wild and garden flowers, are very attractive from March to November. Light and sugaring are most attractive in dark mild weather,

and these insects do not begin to fly till after dusk. Many moths, however, fly by day, and it is well to beat brushwood and hedges in summer. Many beautiful insects are found reposing on the north side of trees and palings, rocks and buildings, and even amongst stones. As a general rule insects abound during bright warm weather, and are particularly active before a thunder-storm. Other insects than these two orders will be found in their season, where there are flowers and sunshine.

Caterpillars should be placed in a tin collecting box, with air-holes, or a pasteboard box much pierced with red-hot wires, partially filled with fine moss, and a leaf of the plant should be taken as a specimen of its natural food. A sprig of the plant is stuck into a vessel containing moist sand, and over that a glass funnel or cylinder covered with gauze on the upper end. This apparatus is kept out of doors, and if the food is regularly supplied and kept fresh, many fine specimens will be reared.

Chrysalides of moths are found in greatest abundance at the foot of the alder, willow, oak, elm, and ash; at a hand's breadth from the stem insert a trowel or large pocket-knife to the depth of two inches, and push upwards. Transport the chrysalides in a box amongst moss. At home they should be placed in a rough deal box covered with gauze above; in the bottom a quantity of black earth from a hollow tree slightly moistened, and kept moist by a layer of moss: keep the box out of the sun.

Kill the beetles by immersing the collecting bottles or quills, very cautiously at first, in boiling water for a few minutes; even those which are apparently dead in the spirit bottle ought always to have a hot bath. Kill bees and moths by slightly raising the lids of the pill-boxes; cover a pile of boxes with a tumbler, a basin, or bell-glass; put a pinch of powdered sulphur on a flat piece of stick, light it, and put it under the vessel; in an hour repeat the operation, and in eight hours afterwards commence setting.

Beetles which are too small for piercing should be placed on a card rubbed with gum tragacanth, and their various members extended with a needle; when dry, cut the card in a neat square fashion, and mount it on a pin placed behind the insect. Dragon-flies, and some of the largest sphinx moths, should be opened below and the bowels extracted, (a little chalk powder will absorb the moisture,) and then stuffed with rolls of paper or cotton; these insects are best killed by holding their wings between the fingers, and dipping the bodies into boiling water. A red-hot needle, or one dipped in oxalic acid, (poisonous and corroding) thrust lengthwise into the body, is sometimes very useful. Steam, and blotting-paper steeped in chloroform are also deadly to many insects.

Any thin solid-headed pin which is strong enough to transfix, and long enough to hold the specimen, and to fix it firmly into the cork, is suitable for the poor student's purse and purpose. A lucifer match with a needle

at one end and a camel's hair brush at the other, or the upper end of a feather trimmed like a brush, with a needle at the other end of the shaft, supplies a setting-needle; and a pair of little forceps may be made from a thin strip of tin or zinc, or a piece of wire about five inches long, bent in the middle, and the ends hammered flat so that they may lie directly opposite each other. It is necessary to have a piece of gum tragacanth about the size of a sixpence dissolved in five tea-spoonfuls of cold water in a bottle.

When cork is beyond the student's reach let him procure a board and nail, or paste on it two or three plies of old cloth, and paste a sheet of writing paper on the surface; or ten sheets of newspaper nailed or pasted at the edges, so as to be somewhat loose, and thus offering less resistance to the pin. Provide a store of common pins, and some thin card cut into triangular slips of various sizes, with a pin thrust through the broad end, to act as braces for retaining the wings and legs of the specimens in proper positions until dry.

In setting beetles, hold the specimen with its head from you, between the thumb and forefinger of the left hand; thrust the pin through the right-hand wing corner near its centre, till the point projects a quarter of an inch on the under side of the body; display the different parts of the mouth by means of the little brush or setting-needle, arrange the feelers and the legs in a natural manner, stick it firmly in the setting-board, re-arranging its members, and securing each where necessary with pins and braces; with the exception of the legs of butterflies and moths, it is well to attend to these details in almost all cases. Moths should be pinned after death when laying on the table or palm of the hand; if the head of the pin is slightly inclined forwards, it will much facilitate the setting if the specimen is afterwards placed perpendicularly on the setting-board: take care not to injure the wings of moths and butterflies.

The wings of beetles are seldom displayed, but those belonging to other orders of insects should be fully displayed, just as if the insect had been struck dead when in full flight. Butterflies and moths may be set with their bodies in grooves cut in cork by a rat-tailed file, and their wings braced down; bees, wasps, dragon-flies, and two-winged flies should have their wings displayed flat upon little tables of card mounted on pins and secured with smaller braces. All beetles below a quarter of an inch in length are liable to be injured by the pin; provide thin cards, rule them for the sake of neatness into little spaces; one size, three-eighths of an inch, by two and a half eighths, and the other two and a half eighths of an inch by two-eighths of an inch. Cover a space with gum, extend the members of the specimen, wet the little brush, and place the former on the card, and re-arrange its members. When dry cut out the stage, and mount it on a pin behind the specimen.

To relax specimens that have become stiff, before setting, place them on damp sand, or on a bag containing fifty young and juicy leaves of the common laurel, bruised by a mallet, in a covered vessel. A greasy specimen should be immersed in spirit of turpentine, and placed on a bed of calcined magnesia to dry: a piece of sponge dipped in spirit of turpentine helps to exclude mites. Specimens attacked by these pests should be baked in an oven, or anointed with a drop of this mixture:—Equal parts of alcohol, oil of anise, and oil of thyme. A muslin or gauze cover sewed to a light framework of wire will keep off dust whilst the specimens are drying, and at the end of a week or so, they will be fit for the store-box. The toy-shop, the grocer, the fruiterer, and the milliner can supply many little boxes, which, when lined entirely with cork, or even strips or little points of cork will answer every useful purpose.

The width of the columns into which the store-boxes are divided, is regulated first by the width of the labels, which must always be written or printed in a distinct manner on a slip of paper an inch and a quarter by half an inch; and secondly by the relative size of the specimens, and according to these rules:—Large beetles and crickets in pairs side by side; bees, flies, and dragon-flies, singly, placing the males first. Of butterflies, two specimens of each, male and female, one of each set in the natural way and the other displaying the under side of the wings. Two or more specimens of other insects that are less than the breadth of the labels are placed side by side in the columns. Measure the width of the labels or of the specimens when large, set off these points from left to right of the store-box in two lines, one parallel with the hinge and the other with the front, and rule with a pencil.

I would earnestly advise all students to number and register all their specimens after the following method:—Rule a sheet of paper into little squares of a quarter of an inch each, in the upper part of each square write the number from 1 up to thousands, and in the lower part 56—the year of capture: a new series should be commenced in 1857. He should also get a penny pass book, such as tradesmen use; on the left-hand side of the right-hand page rule three columns; write the year above these columns, in the first column write the number of the specimen, in the second the number of the month, and in the third the number of the day of the month; the rest of the line is left blank for the name when ascertained; on the next line below write the locality thus:—

1856.			
36	4	10	
			On Buttercups in Ash-mill meadow.

In another note-book under date of April 10th., the following entry may

be made, under the number 36-56:—"Captured several little bees laden with pollen; they appear to resemble those belonging to the numerous colony near Redbridge Turnpike;" and any other remarks on their habits. In both sets of books, the left-hand page ought invariably to be left blank, to give space for corrections of errors, and for adding additional information: this rule ought to be observed by every one in preparing notes for publication, both for his own and for the printer's convenience. If any student or club will form a collection of insects, ticketed and registered in this faithful and intelligent manner, there are few masters in the science of Entomology who would not be delighted to inspect and label the same.

Every workman's club should embrace members of various trades, so that all may contribute their share of mental and manual labour towards its organization and success. The tinsmith could make nice portable pocket collecting boxes, eight inches by four and a half by two and a quarter, opening in halves like a backgammon board; a blacksmith would advise about cheap net rings; the plumber could melt in his iron spoon equal parts of tallow, bees' wax, and resin, which, when poured into the store-box to the depth of three-sixteenths of an inch, and covered with foolscap paper is a good and cheap substitute for cork; the carpenter can cut the rough cork into sheets with a small hand-saw or a sharp knife moistened with water, or with the smallest quantity of oil; or at the veneering saw-mill he can make sheets of cork for the store-boxes by glueing little pieces on sheets of paper and nailing them down till dry, then polishing the surface with wood files and pumice stone, and after glueing them into the box it is loaded with weights till dry: then fill up any little holes in the cork with the above-mentioned compound recommended as a substitute for cork. He can make store-boxes of half-inch deal, secured with glue and small screw nails; each box may be seventeen inches by fourteen by three and a half, and then it may be sawn into halves, like a backgammon box, adding two pairs of hinges, a hasp, and a thin fillet of hard wood or zinc to exclude the dust: the cost of the box without the cork need not exceed three shillings. And lastly the bookbinder can paper the box nicely, rule it into columns at right angles to the hinges, with pencil lines at various distances from two inches to half an inch, and he may perhaps be able to furnish naturalists with cheaper store-boxes of pasteboard than can now be purchased.*

Patience and perseverance will, in this as in every other pursuit, receive their reward in due season; and the writer can confidently assert, from personal experience, that no true-hearted naturalist will ever refuse to assist the anxious inquirer.

Amongst useful books, Maunder's "Treasury of Natural History," at

* The glazier's aid should *above* all be called in.—F. O. MORRIS.

10s. 6d., is worthy of notice for insects, as well as other branches of Natural History. A watch-maker's eye-glass at 1s., which leaves the operator's hands at liberty, is very useful in setting and examining insects; and of pocket lenses, there is the single lens at 1s. 6d., and the very excellent lens of three glasses at 3s. 6d.

January, 1856.

NOTES ON THE BRYOLOGY OF LADHILL GILL, (NORTH YORKSHIRE.)

BY J. H. DAVIES, ESQ.

OF the dales opening out towards the south, that intersect the moorlands of north-east Yorkshire, beginning at the west and proceeding towards the sea, Ladhill Gill is the second that presents itself to our attention. Compared with some of the others, its length, which is only about six miles from the source of the stream on the wide expanse of the moorlands about midway between Snailsworth and Bilsdale, to its junction with the Rye at Hawnby, is quite inconsiderable. At its commencement the beds over which it runs belong to the liassic series, but from the south-eastward dip of strata we gradually pass over earlier deposits as we follow the course of the stream. At first it flows silently along, undermining its way over the heathy surfaces of the moorland, diversified by beds of *Sphagnum* and *Polytrichum commune*. After pursuing a tortuous course for some distance, the valley sinks deeper, and the stream rushes over its rocky channel between sloping banks, clothed with hazels and alders; now whirling in eddies amongst the confused rocks, and forcing its way between them, anon dashing down some steep declivity, and now rippling along a smooth surface of solid rock. Sometimes the sides of the glen are precipitous, and covered with trees, principally young oak, ash, alder, and hazel; sometimes you catch a glimpse of the moor, and sometimes it is quite exposed, and you are tempted to leave the stream for a time to hunt amongst the rocks and "stone walls grey with mosses," to find, in all probability, *Hedwigia ciliata* and *Weissia cirrhata*. Returning to the stream, *Tetradontium Brownianum* may be seen on the shady rocks, which in some places overhang it, and on the trees *Orthotrichum Bruchii*, *Isoetecium myurum*, etc. In the stream itself you may collect *Racomitrium aciculare*, *Dicranum flavescens*, *Schistidium apocarpum*, (and its variety *rivulare*), *Hypnum plumosum*, and a host of others. In several places the liassic shale is entirely exposed, and the water constantly dripping down the surface, prepares excellent situations for such species as *Dicranum squarrosum*, *Hookeria lucens*, *Bartramia fontana* and *calcareo*, *Mnium punctatum*, *Fissidens adiantoides*, *Bryum pallens* and *Wahlenbergii*, etc.

The species enumerated above, as also the under-mentioned, were noticed during a ramble through the "Gill," (which occupied perhaps a couple of hours.) Doubtless many more remain to be added.

Sphagnum cymbifolium	Racomitrium canescens	Climacium dendroides
" acutifolium	Orthotrichum affine	Hypnum rutabulum
" cuspidatum	Tetraphis pellucida	" prælongum
" squarrosum	Atrichum undulatum	" striatum
Dicranum pellucidum	Pogonatum aloides	" ruscifolium
" heteromallum	Polytrichum juniperinum	" serpens
" scoparium	" piliferum	" cordifolium
" majus	Aulacomnion palustre	" cuspidatum
" palustre	Bryum nutans	" Schreberi
Leucobryum glaucum	" pseudotriquetrum	" tamariscinum
Ceratodon purpureus	" capillare	" splendens
Campylopus flexuosus	Mnium hornum	" flagellare
Didymodon rubellus	" undulatum	" triquetrum
Trichostomum rigidulum	Funaria hygrometrica	" loreum
Tortula tortuosa	Fissidens taxifolius	" squarrosum
" subulata	" bryoides	" commutatum
Grimmia pulvinata	" pusillus	" molluscum
Racomitrium fasciculare	Leucodon sciurioides	" cupressiforme
" lanuginosum	Anomodon viticulosus	" undulatum
" heterostichum	Isoetecium alopecurum	Neckera complanata

Thirsk, April, 1856.

ADDITIONAL YORKSHIRE LOCALITIES FOR RARE MOSSES.

BY J. H. DAVIES, ESQ.

SINCE writing the list of "New Yorkshire Stations for Rare Mosses," which appeared in "The Naturalist," vol. vi. p. 37, the following have been discovered by my friend Mr. Baker, and myself:—

Sphagnum fimbriatum, WILS.—Bogs between Hawnby and Arden.

Anodus Donianus, B. and S.; with *Seligeria recurvata* and *Hypnum pumilum* on rocks below Rolston Scar.

Tortula vinealis, var. *B. flaccida*.—Has been observed in several places in the vicinity of Thirsk.

Tortula marginata, B. and S.—Rocks below Rolston Scar, Thirsk.

Hypnum albicans, NECK.—In fruit on thatched roofs at Boltby.

Hypnum Teesdalii, SMITH.—Very sparingly on a stone on the east bank

of the Codbeck, between Sowerby and Dalton, near Thirsk. "Very perfect specimens."—*Wils. in litt.*

Hypnum radicale, P. BEAUV.—May probably prove to be tolerably common in the neighbourhood.

Thirsk, April, 1856.

DESIGN FOR A NEW LARVA BOX.

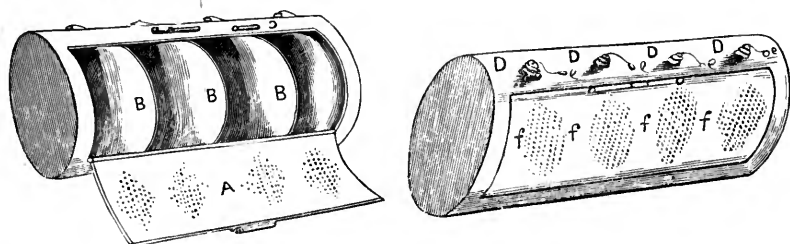
BY MR. R. G. SCHOFIELD.

My object is to be able to place different kinds of larvæ, separately, in one box, for the following reasons:—

Firstly, To prevent Larvæ from killing each other, which frequently occurs when several species are together.

Secondly, To save time, as in the ordinary mode of placing captures in small boxes, it generally happens that the wrong ones come to hand first.

Fig. 1 represents a Larva Box of tin, and which can be made of any size that the collector may fancy. The lid A is thrown back to shew



the partitions B B B, and closes against them, thus forming separate chambers for four or more different kinds of larvæ. When the food has been placed in the above chambers, the lid is fastened down by a wire fastening at c, and remains shut until the contents arrive at their destination.

Fig. 2 shews the tubes, D D D D, through which the larvæ are passed into their proper compartments, and prevented from getting out by corks made to fit the tubes, and attached to the box by short strings, e e e e. The tubes and corks must not project more than is actually necessary from the face of the box, or they will be in the way. The lid and opposite side of the box are to have perforations, f f f f, to allow a free circulation of air. The compartments may be alphabetically arranged to prevent any error in the disposal of the captures.

Windsor Street, Lower Norwood, March 13th., 1856.

LIST OF CRYPTOGRAMOUS FLORA FOUND IN THE NEIGHBOURHOOD OF RIPON, YORKSHIRE.

BY MISS EMILY E. HARRISON.

Polypodium vulgare, (Common Polypody.)—Very abundant on the roots of trees, and on most of the old walls.

Polypodium phegopteris, (Beech Fern.)—Two or three large beds of it in Hackfall, opposite a stone quarry on the other side of the river.

Polypodium dryopteris, (Tender Three-branched Polypody.)—Very luxuriant over the craggs in Hackfall.

Cistopteris dentata, (Toothed Bladder Fern.)—I found a few roots on some rocks near the river, and others in Mickley Lane.

Cistopteris fragilis, (Brittle Bladder Fern.)—On Tanfield Church, and a few plants on some old walls near Tanfield.

Aspidium Lobatum, (Prickly Shield Fern.)—Extremely common in all the woods.

Aspidium aculeatum, (Common Prickly Shield Fern.)—Very abundant in Hackfall and the hedge-rows.

Aspidium angulare.—Very luxuriant in Hackfall; a frond I gathered, measuring more than a yard, and shewing very distinctly its difference from *Aculeata*.

Lastrea Filix-mas, (Male Fern.)—Very common.

Lastrea spinulosa, (Narrow Prickly Toothed Fern.)—I have not gathered this myself, but was shewn some beautiful specimens that were gathered in Leckby Carrs, near Topcliffe, growing in a ditch. I hope to get some next year there.

Lastrea dilatata, (Dilated Shield Fern.)—Very common, as also the varieties *Multiflorum* and *Recurbunum*. Hackfall is beautiful at the east end of the wood with these most lovely of Ferns.

Lastrea oreopteris, (Mountain Fern.)—On the side of a hill above Hackfall.

Lastrea Fenisecii.—I have found several roots of this in Hackfall.

Asplenium Ruta-muraria, (Wall Rue Spleenwort.)—Very common on old walls.

Asplenium trichomanes, (Common Spleenwort.)—In a wood near Hackfall, and on Fountains Abbey, but not very abundant.

Asplenium adiantum nigrum, (Black Maiden's Hair.)—Grows in Mickley Lane.

Athyrium Filix-femina, (Lady Fern.)—This graceful Fern makes almost every road-side lovely. Its var. *♀ irrigum* is common in Hackfall; also var. *♂*

Scolopendrium vulgare, (Common Hart's Tongue.)—Grows in the greatest

abundance at the west end of Hackfall woods, and scarcely a plant at the east end.

Scolopendrium multifidum, (Cleft Hart's Tongue.)—In a wood near Mickley it is abundant.

Blechnum boreale, (Hard Fern.)—Very common.

Pteris aquilina, (Brake.)—Very common. The var. *β caudata* I think I have found, but have not quite decided whether there is such a variety or not.

Botrychium lunaria, (Common Moonwort.)—In some fields near Burneston and Bedale.

Ophioglossum vulgatum, (Common Adder's Tongue.)—I have never found this yet, but was shewn some specimens gathered in the neighbourhood.

Pilularia globulifera, (Creeping Pillwort.)—In a pond near the Leeming Lane; it is quite full of it. I have not seen it elsewhere.

Lycopodium clavatum, (Stag's Horn Moss.)—Very common on some rough moorish ground not far from Hackfall. I doubt not but that some more of the *Lycopodiums* grow here, but I have not looked for them.

Equisetum fluviatile, (Great Horse-tail.)—Common all over.

Equisetum arvense, (Common Horse-tail.)—Very common.

Equisetum Hyemale, (Rough Horse-tail.)—Very abundant in Hackfall.

The above list comprises all that I have found, but a closer search would discover many more I doubt not.

Mickley, near Ripon, December, 1855.

BEGINNING OF THE HUNTING SEASON.

BY THE REV. F. O. MORRIS.

IN the month of March a fine specimen of *Phigalea pilosaria* was found on the window of my dining-room one morning before breakfast; a second was also found a few days afterwards under the sill of the kitchen window. On the 31st. of March, in company with my friend the Rev. G. Rudston Read, Rector of Sutton-on-Derwent, I went to "try" Sutton wood at night. He baited some trees with sugar, and we also inspected the willows just then coming into bloom, but only one, a large tree, that is, of that kind, was out in full blossom. We had not to wait long before the top of the tree was visited by numbers of *Noctue*, which however were out of the reach of our nets, and sufficiently tantalizing. The happy idea then struck me of stepping up into the tree, which I accordingly did—a mode of rising in the world, consistent, I hope, with a pardonable ambition—and then easily took several specimens of *Orthosia cruda*; I also saw but "missed" one very large moth, which probably was *Calocampa exoleta*, for my friend the Rev.

R. P. Alington had, not long before written me word that he had found several of this fine insect this spring, which had lived through the winter. He took them at sugar in the same place, near his own house at Swinhope, Lincolnshire, where he had met with them in the autumn "in profusion," so much so as in the end not to think them worth capturing. That the large moth I saw was of this species, is rendered more probable by the fact of our having the same evening found other autumnal species at the sugar, namely, *Gleba satellitia* and *vaccinii*.

The next morning, "April the 1st.," we tried Langwith Common, a "splendid locality," abounding in birch, oak, fir, etc., and took one each of *Brepha Parthenias*, and saw several others, but the wind was so high that it blew them away. I also saw three *Vanessa C-album*, (as well as several *Io*,) and captured the first two of the former. While coming up to one of them something like a leaf fell down at the foot of a small oak tree, and after some search, thinking it might possibly be a moth, I was agreeably surprised by seeing it to be a fine *Ceropacha flavicornis*, just about to fly off, but I was down upon it in a trice. On the trunk of a tree I captured a fine *Xylocampa Lithoriza*.

On the 5th. instant, returning home from a friend's house, I went a little round so as to come through Buttercrambe Moor, a "first-rate locality." There I took another *Parthenias*, and saw one or two more, but I did not stay above half an hour. On the 7th. instant, I again visited Langwith Common with Mr. Read, but only took a dozen or so of *Chimabacche fugella*, another *Xylocampa Lithoriza*, and two or three small *Tortrices*.

In Mr. Stainton's "Entomologist's Annual," for 1856, he gives the following sizes of pins—to be had of Edelsten and Williams, Crown Court, Cheapside, London—as the best to use for the different sizes of Lepidoptera, from the large Sphinx Moth down to the minute *Tinea*:—Nos. 6, 8, 10, 19, and 20; but I think the following a much better selection, and suggest it with confidence accordingly:—Nos. 13, 8, 9, 10, and 19.

Of these, No. 13 is for the *Sphinges* and larger *Bombyces*; No. 8 for the larger Butterflies *Noctuæ* and *Geometræ*; Nos. 9 and 10 for the smaller Butterflies, smaller *Geometræ*, and *Tortrices*; and No. 19 for the *Tinæ*; and other the smallest moths. Nos. 9 and 10 are invaluable sizes, and may be used with the greatest advantage for all the sorts of insects I have named, as well as for all the smaller *Coleoptera*, *Diptera*, *Hymenoptera*, etc. The smaller the pin the better the insect naturally looks; No. 19 is, however, so very small, that I do not recommend it for "insertion work," except for the very smallest Moths, where no other can be used. Five sizes, those I have mentioned, will be found amply sufficient for all purposes.

No. 10 is also the size to be used for labels. They, too, look better the smaller the pins, and this one is strong enough, while those of the

smaller sizes are not. You cannot be too neat in this respect, or in any other. The labels should be put in very straight and evenly, and the pin as near as may be in the centre of each, the ends being kept down flat on the paper. I also cut the names of the authors off, to this end. It is quite sufficient to have them in the book.

April 21st., 1856.

Miscellaneous Notices.

Snow Bunting, (*Emberiza nivalis*).—As I see a good many ornithological notices in "The Naturalist," I thought it might be worth while to mention that on April 10th., a Snow Bunting was brought to me by a coast-guardsmen, still warm. I have never before met with this bird on the south coast so late in the spring, and it was far advanced towards full summer plumage, retaining only a very faint tinge of brown on the top of the head, a tiny speck of brown on the back, and the white tips of the black feathers on the back. It was a most delicate and beautiful little creature. In hard weather I have repeatedly met with Snow Buntings, but never before at this time, and Swansland, of Brighton, who has preserved the bird, considers it very rare on this coast at *this time*.—R. N. DENNIS, Rectory, Blatchington, Seaford, Sussex, April 17th., 1856.

Bewick's Swan.—The same coast-guardsmen brought me (March 4th.) a specimen of Bewick's Swan, just killed in a neighbouring river: the first Sussex-killed specimen recorded. It still retained a little rust-colour on the head, and a grey feather or two on the body. Probably it would have attained its full plumage this spring.—Idem.

Mealy Redpole.—Two of these beautiful little birds, the Mealy Redpole, paid us a short visit in this neighbourhood on the 16th. of March last, the weather being very cold, and remained with us several days, the chief place of their rendezvous being a small yard, where a hay-stack had stood, surrounded by a high wall, well sheltered from the east and north-east wind, which blew very keenly from that quarter during their stay with us. They seemed to relish the seeds that had fallen from the hay. So tame were they, and the wind blowing so keenly, that they allowed me to approach within five or six yards of them, to examine their plumage, which was of a lightish grey, and the red upon their head was beautiful. They appeared to be only visitants here, and as soon as the weather cleared up, left us. Their notes are tunable and shrill, not unlike those of the Canary-bird. Having a desire to take one of them alive to examine, two traps were laid for them, but both failed. Like the other species, the Twite, of which we have many here, they are particularly fond of the seeds of hay, which were plentifully supplied to them, and of these they

kindly partook, in my presence, without any reserve, at little more than the above-named distance.—ROBERT DAYKIN, Hurst, near Richmond, Yorkshire, April 7th. 1856.

Golden-Eye.—A female Golden-Eye was shot last month on a piece of water in the Lordship of Staverton, by a farmer named Wright. I saw it yesterday, at a bird-stuffer's at Daventry. We have had but few rare birds here this winter.—W. BROOKS GATES, Derngate, Northampton, February 20th., 1856.

I this morning took three fresh eggs from the nest of the Dipper, which bird I have several times mentioned in "The Naturalist." I think there is hardly an instance on record of its breeding so early. I found the nest nearly completed on the 23rd. of February.—HENRY SMURTHWAITE, Richmond, Yorkshire, March 15th., 1856.

TO THE EDITOR OF "THE NATURALIST."

REFERRING to an inquiry of your correspondent Mr. Smurthwaite, respecting the Cornish Chough, (*Fregilus graculus*), I send a few memoranda respecting it, on the principle that every little helps. The Chough is by no means an uncommon bird on many parts of the Cornish coast, though I fear more rare than they were ten years since, and likely to be still more so whilst their constant persecution, for the sake of procuring specimens, continues. Were it not for their extreme wariness, and the almost inaccessible cliffs which they frequent, they would, ere this, have been nearly exterminated. I have myself met with them in tolerable abundance in the following localities:—Bude Haven, Tintagel Head, Port Isaac, Pentire, Newquay, North Perran, Perth Towan, Pertreath, Cape Cornwall, and the Land's End, on the north coast; and the Logan Rock, Mullion, Pradnack Head, Thynance, the Lizard Head, and as far as the Menacle Point, on the south coast; eastward of this it becomes more scarce. A person unacquainted with their peculiar cry might however visit all these places, and make many inquiries for them, without getting much satisfaction, partly from their similarity, when flying, to the Jackdaw, and partly to the confusion of their names—the term Chough being always applied provincially to the Jackdaw, as remarked by Mr. Clogg; the other being known as the Red-leg. Their distinguishing characteristic is their note, which may after a little while be easily distinguished from that of the Daw, being much wilder, and more shrill. They are partially gregarious, keeping together in flocks of six or seven during the autumn, winter, and early spring, but breeding in single pairs, although occasionally two or even more pairs may chance to occupy the same cavern; and this leads me to remark that all the nests I have met with have been in caverns. The only one with which I have had an opportunity of becoming closely acquainted was built

on a ledge of rock, some twelve or fourteen feet above the water, in a cavern near Pradnack Head, and was in construction very similar to that of the Jackdaw. They breed later in the season than the other *Corvidæ*, and I imagine rear but one brood in the year. Their actions when undisturbed are very sprightly and entertaining. I have watched one with a glass for a long time climbing about a stone wall, hanging by its claws, often with its head downwards, exploring with its long bill the crevices between the stones, which no shorter instrument could get at. I have heard that when tame, their love of mischief of every kind far eclipses that of either Magpie or Jackdaw. The farmers on the north coast accuse them of pulling up their wheat, and do their best to shoot them, the endeavour being however, fortunately for the bird, not often crowned with success. It would be interesting to ascertain what makes the Cornish Chough so essentially a sea-cliff bird, for that such it is appears certain; here in Cornwall, at all events, it never, I believe, breeds anywhere else; probably marine insects form a principal part of its food.—S. W. JENKIN, Liskeard, March 27th., 1856.

Common Frog.—Several Common Frogs took up their winter quarters this last winter in a branch of a level in the mines in our neighbourhood, which had not been in working for some time before, three hundred yards in from its mouth where they entered. At Christmas, on seeing the light of the candle, they seemed, though it was keen and cold at the outside of the mine, to be very lively, and moved about as if in their natural haunt. The place chosen by these amphibious friends was a still water, with a soft sludge at its bottom two or three inches deep; and curious to say, when the month of March arrived, they began to obey the instinct of Nature, by retracing their steps back again to their old haunts to enjoy the warm and bright rays of a March sun.—ROBERT DAYKIN, Hurst, near Richmond, Yorkshire, April 7th., 1856.

The Retrospect.

The "Great Unknown" Hawk.—"Having been much engaged, my report on the engraving which you kindly sent me of the Hawk in your possession, has been delayed longer than I could have wished. I will, however, now give you my opinion as far as the portrait and description of the bird enable me to form one.

1st.—I think it probable that the bird is in the plumage in which it quitted the nest; but I think I can perceive in the engraving a tint of blue on some portion of the back, which is probably an indication of the bird's having been about to assume its second plumage at the time when it was killed.

2nd.—I consider the specimen to be a partial albino; and the absence of colouring in some parts of the plumage and in the claws to be attributable to that cause.

3rd.—I believe the bird to be a hybrid.

4th.—I have no doubt that one of its parents was a Sparrow-Hawk.

5th.—I think it somewhat doubtful to what species the other parent belonged; but on the whole I incline to the belief that it was a Hobby.

6th.—To shew that this is not impossible, I will give you an authentic instance in point:—A few years since, the gamekeeper of Henry Kett Tomson, Esq., of Witchingham, in the county of Norfolk, discovered a Hawk's nest in a plantation belonging to that gentleman. The gamekeeper, after watching both the birds belonging to this nest on various occasions, shot the hen bird upon the nest, and the bird so shot was a female Sparrow-Hawk; he then laid wait for the male bird, which he also shot at the nest, and which proved to be a Hobby: the nest contained four eggs. The gamekeeper left both Hawks lying under the nest, where they were observed by Mr. Howard Irby, a zealous ornithologist, who was staying with Mr. Tomson at the time, and to whom I am indebted for the record of the circumstance. Mr. Irby shewed me at the time the skins of both the birds, and also one of the eggs. The latter differed from the usual egg of the Sparrow-Hawk in the brown colouring matter being less gathered into blotches, and more diffused over the surface of the egg, than is generally the case in the eggs of that bird.—J. H. GURNEY, 24, Kensington Palace Gardens, April 10th., 1856."

The above is a communication made to Dr. Hobson, of Leeds, by Mr. Gurney, and it will be seen how closely it corroborates the suggestions I had ventured to make. I cannot, however, say that I think that the fact of two Hawks of different species having been shot in a wood at the same place, is at all conclusive of the supposed fact that they were a pair, or corroborative therefore of the genealogical descent of the subject of the memoir. I mean that I think the supposition that the Hawks were accidentally near together is so natural, as to be preferable to the idea that they were so as partners. Likewise also, as to the variety of the egg, I must say that 'nil moror,' for not only do all other eggs vary, but I have specimens of those of the Sparrow-Hawk altogether different from each other. On the main question, however, Mr. Gurney's opinion is a high one, and valuable.—F. O. MORRIS.

I take the liberty of offering the following remarks with reference to a subject which I am sorry to see appears to have very few representatives in the columns of "The Naturalist;" why, I never could make out; as there must be many of its readers who possess microscopes, but from some

unknown cause, hesitate in making known their observations; perhaps a certain delicacy of introducing a subject requiring the assistance of the very best instruments to give "undeniable results," prevents much valuable matter being published, which would doubtless appear but for this, and as there must be a great many persons engaged in microscopic inquiry, who like myself, are unacquainted with any one else of the like pursuits, if it were possible to open a correspondence amongst them, for the exchange of specimens and observations, such could not fail to be highly beneficial to all parties concerned. I have ever been of opinion that where two or three are engaged in the same subject, if they exchange notes, etc., they are certain to benefit more than where each works separately and alone. I have for some time been extremely anxious to meet with some persons engaged in this most interesting pursuit, with whom I could exchange specimens and notes; and as an example of one of the many ways in which they could mutually assist each other, (merely in the exchange of specimens, if nothing more,) the following could be imagined:—I reside at the sea-side, and have ample time to collect specimens of Algæ, Zoophytes, etc., which some one resident in the country might wish for; while I again might want some *Desmidium*; now one would naturally wish to know something of the objects sent for, and would be likely to "look up" the subject, and thus add to previous knowledge.

I doubt not if once it were known through the columns of that "helping hand" 'The Naturalist,' that certain parties would be willing to assist in microscopic inquiry, and that any one writing to them would get such information and assistance as it was in their power to give, much more might be done; and many who spend their leisure time in glancing over their collections, and occasionally mounting another object, would instead, endeavour with all their power, to answer, past the possibility of dispute, (so far as their instruments would allow,) any question that was put to them; and thus not only have the satisfaction of knowing that they were obliging others, but at the same time be improving themselves, and acquiring a better method of investigation.

To those advanced in this study these remarks do not apply, as they, from their advancement, must be acquainted with many of the most celebrated microscopists of the day; but it seems a great pity that the Tyro like myself cannot also have the advantage of interchange of observations, merely from not knowing any one to apply to. I therefore feel quite certain that this merely requires to be brought before the readers of "The Naturalist," to elicit a very satisfactory list of names of persons willing to enter into this scheme; and thus the already great usefulness of this publication would be still further enhanced.—GEORGE HODGE, Seaham Harbour, April 3rd., 1856.

Proceedings of Societies.

The London Working Entomologists met on Wednesday, April 2nd., at 52, High Holborn; Mr. Dow in the chair. Owing to the late cold winds not many rarities were shewn. The printed Club Rules will be distributed at the next meeting.

The following donations were received, and a vote of thanks passed—"The Naturalist," for March and April, by the Editor, the Rev. F. O. Morris.—JAMES GARDNER, Hon. Sec.

The Currist.

A query occurs in "The Naturalist" for February—"Why are birds so scarce in certain districts, whilst food, as haws, etc., is so abundant?" The following notice of the havoc amongst them last winter, may, I think, fairly account for it, and for a recurrence of scarcity for some seasons to come:—The whole of the Thrush tribe were remarkably scarce in this neighbourhood during the past summer of 1855, and our beautiful valleys, which used to resound with the loud notes of the Missel, the rich whistle of the Blackbird, and the varied and melodious strains of the Thrush, were sadly deficient of their usual vocal charms; scarcely a bird of either species was to be heard for miles around. The winter migration has not added much to their numbers, and their congeners, the Fieldfare and Redwing have been remarkably scarce, not one of the former, so far as I am aware of, having been identified in the neighbourhood. These used to be our most common birds, and the first to succumb to severe weather. An ornithological friend tells me that very few Fieldfares have been seen at The Lizard, where last winter, in company with their congeners, they covered the country by thousands; and an intelligent and observing man told me there last summer that "not a tithe of them escaped." In our neighbourhood, the gardens close to the town being manured with sea-weed, which afforded a scanty supply of maggots, were covered with these unfortunate birds so thickly, that in one instance, twenty-two Redwings and two Starlings were killed at one shot; and I saw starved Redwings (local Winnards,) hopping listlessly about the streets. Great numbers, together with Starlings, Larks, and other small birds, perished with cold and starvation, besides the numbers destroyed by the murderous "pin and thread" and gun, boys, cats, and other enemies. In a recent catalogue of Eggs, Mr. Wolley notes "In the summer of 1855, Fieldfares were in such small numbers in Lapland, probably on account of the previous severe winter in the south, that I did not happen to see a single inhabited nest." We have only seen one flock of Redwings here for the winter, and observed them scattered about the fields during a few days frost.—CLEMENT JACKSON, East Looe.



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* * Correspondents are particularly requested to write the names of persons, places, and things VERY DISTINCTLY.

Communications, Drawings, Advertisements, etc., to be addressed to the Rev. F. O. MORRIS, Nunburnholme Rectory, Hayton, York;—Books for Review and Parcels, to the care of Messrs. GROOMBRIDGE, 5, Paternoster Row, London.

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Advertisements to be sent in not later than the 15th. of the Month.

PHASCOLOMYS WOMBAT, (*DIDELPHIS*.) SHAW.

BY S. HANNAFORD, ESQ.

I THINK it the duty of every naturalist, as far as lies in his power, to make known to science whatever particulars he can collect concerning the habits and instincts of those animals which are indigenous in that part of the world in which he resides, and also to correct where he can, statements made by parties entirely unacquainted, *ex visu*, with their mode of living, where they are at variance with facts. Never was correction more needed than in the "Notes on the Natural History of Australasia," recently published in the Melbourne Monthly Magazine, and I lose no time in noticing them, ere such absurd ideas become more generally diffused.

At page 100, speaking of the Wombat, the writer says—

"Although there is a spinal extenuation, it is destitute of a tail.....It has no pouch.It possesses a greater quantity of fat than any other Australian quadruped, which, when boiled down, makes excellent candles.....The male shares with the dam the duties of rearing their young. Each strives by parental kindness to exceed the other in attending to their offspring. This particular tendency on the part of the Wombat may be ordained by Nature to compensate for the loss of the pouch."

Without noticing these remarks *seriatim*, I will describe, for the information of my readers, who are not living near Wombat settlements, their appearance, and what I know of their habits from actual experience.

The scientific name of this extraordinary animal is *Phascolomys Wombat*; and I would remark here how much I approve of the native names being used specifically, as in this case, for it facilitates conversation with the natives, when wishing to learn any particulars of indigenous animals or plants.

The Wombat belongs to the *Marsupial* family, HAVING A POUCH, from which I have myself taken the young. It is a thick, short, clumsy-looking quadruped, about *four feet in length*, and weighing about a hundred-weight, to which my shoulders have often borne witness. (Mr. Swainson, in his "Classification of Quadrupeds," page 339, says, "Its size is that of a rabbit;" and Bulwer, in his clever novel, "The Caxtons," speaks of it as "between a miniature pig and a small badger,"—page 414.) It has a remarkably large flat head; the eyes far apart; is covered with a thick coat of strong stiff hair, of a light brown or greyish colour; the back broad and flat; legs very short; the belly almost touching the ground;—in fact, it has, as Swainson describes, "a shapeless body," yet his drawing is that of an arched, barrel-shaped animal, standing higher from the ground than is natural. The toes on the fore feet, five in number, are all clawed, but in the hind toes, four only are clawed, the fifth assuming a tubercled or rounded appearance. The head, as well as the hinder parts of the body, are covered with a very thick skin, which makes capital saddles.



Unattractive as these creatures are, they are perfectly harmless—feeding on grass—and from the immense number of Wombat holes about the sea-coast in this neighbourhood, seem to have some very extensive settlements “under the sod.” They burrow through masses of the soft shelly stone peculiar to this place, and *during the breeding-season I have never seen the male in the same hole with the dam.*

There is something particularly exhilarating and inspiring in the shooting of Wombats; the stealing out at dead of night with stealthy footsteps; now and again stopping your breath almost, to listen for the sound of the animal grazing, or scratching to free himself from the enormous ticks which torment him; the stalking on hands and knees, or crawling along on face and hands, as you near his subterraneous abode. A treacherous twig snaps! and away he scuttles, with a motion peculiar to himself, to the mouth of his hole, where he remains for a few moments with ears erect, until fear gives way to hunger, and he again makes his appearance—anxious moments these for the sportsman! the heart beats high—one single rustle and all hopes are gone; but gently and more gently still the gun is brought to the shoulder—noiselessly cocked, but not before the timid animal has observed the glistening of the moonbeams on the barrel, and off he scuttles again—but too late this time, his head being pierced through by a bullet, and the sportsman just manages to rush to the mouth of the burrow in time to prevent his crawling into it to die.

In every adult individual I have ever seen, the “spinal extenuation”—a tail to all intents and purposes—has been between three and four inches in length. I have noticed the almost entire absence of fat in every specimen I have skinned, particularly in the female; and the idea of boiling it down to make candles is really too absurd to notice.

So far from being as Swainson asserts, “very slow in its motions,” its pace, when disturbed, is remarkably rapid; and one old fellow, almost white with age, for some time eluded me by his agility.

Wannambool, Australia, February 8th., 1856.

THE FLIGHT OF BIRDS.

BY O. S. ROUND, ESQ.

EACH particular bird is known almost to a certainty by its general appearance and manner of flying, by those who have any pretensions to the name of naturalists; for although there are so many kinds even in our own small island, these have all manners of motion of their own as distinct and distinguishable as our own countenances. In birds of the same order it is chiefly that a man's discrimination is requisite, for the characters of others

are sufficiently marked. Thus, every one, naturalist or not, knows a Pigeon as it flies over him, and will not mistake it for a Rook or any other bird of the same size. The Rook, if his general appearance when near be well known, will hardly be mistaken on the wing; and yet unobservant persons constantly confound him with the Jackdaw, the Carrion Crow, and even with the Raven. It must, however, be admitted that a Rook and Crow are very similar on the wing, but a glance at the *head* will immediately determine the identity; that of the Rook being small with a large bill, more or less whitish, whilst the Crow has a large well-proportioned skull, and beak to correspond, quite black; besides, the Crow is scarce compared with the Rook, and never seen in large flocks, except the Royston Crow, whose grey back instantly distinguishes him. The Raven again, is a much larger bird, and usually sails in circles at a considerable height, uttering a hoarse croak, or skims in a manner hardly to be confounded with his sable relatives. The Jackdaw is so much smaller than any of his kind, and he has such a high sharp 'caw,' which cuts in as a sort of chorus to the clamours of a flight of Rooks, that most people must know him, his bill being also black and his poll grey.

The Heron is an elegant bird on the wing, and seems buoyed up in a very graceful manner by its large, hollow, aerial supporters; and as it skims over the pool with head arched back and legs thrust out behind to perfect its balance, is only necessary to be once known that it may ever after be recognised. All marine birds, indeed, have something of his manner, and this arises from the large size of the wings in proportion to the body. The Gull tribe, in particular, have much of his air, but they sail more, and appear lighter and more buoyant. All sea birds, being familiarly known only to fishermen, and those who reside near the coast, are more difficult of recognition; there is, moreover, much more similarity between them than the land birds, and there are a far greater number of species having the same general appearance in each order or genus. Thus the Albatross and Cormorant are well known; but the Oxbirds, Dotterels, and Turnstones, may be very easily confounded, or the Terns, *inter se*.

Of all land birds, the Pheasant, perhaps, is most easily recognised, and as his wings are small for his weight, great muscular exertion is requisite to sustain his flight; with this he is accordingly endowed, and although he may not always fly very far, the speed at which he travels is very great, as he rises from the bosom of the woods uttering his loud clucking cry. The Partridge is another instance of this kind, the wings appear perfectly to spin with the rapidity of their motion, and, like the Pheasant, it is only upon the acquisition of this impetus, that they can ease themselves by a cessation, and skim until they alight. Of all birds, perhaps, which may be regarded as having perfect powers of flight, there is none with so

easy a manner as the Swallow; he glides over the stream and the meadow with a continuous and placid movement from sunrise till evening, and seems never wearied; his life is aerial, and he is framed accordingly; his body is very light, and his wings exquisitely shaped for the least possible resistance to the medium through which he glides, at the same time that they sustain him in it without any comparative effort. The Swift, indeed, possesses the most wonderful powers of flight, I suppose, of any known bird, but these are of a higher order, and may almost be called sublime in their magnitude.

There are a great many of our native birds which merely use their wings as the means of transporting themselves to small distances, and are as often dependent on their perching or running powers; these do not range to any distance from one locality, or if they do, it is by fits and flittings—a little at a time. Thus, Partridges, and indeed all our birds of the gallinaceous kind, trust much more to their legs than their wings; except the Black Grouse, which are noble flyers, and go sometimes for miles when flushed; whilst the Crow kind walk, although they cannot run, and hence are continuous flyers. There are others again who are continuous flyers only in a partial degree, which perform migrations from one part of the country to another; of these, the Snipe, the Pigeon, and the Ring Ouzel are examples. There are others again, that, although they are weak flyers, yet perform the most extensive migrations; how this is performed must to a certain extent be involved in mystery, these travellers being so small, and probably migrating in a very desultory manner, that it would be no easy matter to observe their transit. One thing appears certain, that a great waste takes place in their numbers somewhere, and considering the feebleness of their powers and the journey they have to take, it is no wonder.

The tail of birds being the great directing agent, or rudder, to regulate flight, alters the mode of flying, according to its shape or dimensions; thus the Cuckoo, having a large cuneiform tail, seems to float, to a certain degree, upon the air; Magpies shoot downwards, and seem to fly in an angular manner, if I may use the expression, their tails being long, and more or less pointed; Jays appear to be very loosely formed, and possess comparatively little power of wing, although in other respects strong birds; and hence they fly in a very uncertain manner, and make but little despatch, but then they are very wary, and their flying consists in dodging about amongst covert.

The Gallinule and Grebe genus, of which the Common Moor-hen and Dab or Dob-chick are familiar examples, can scarcely be said to be flyers at all, indeed, how the latter migrates from one pond to another, sometimes for miles, has long been a matter of wonderful conjecture to many, but as it is a very small and cunning creature, it might be easily imagined

that wet ditches and such modes of communication are open to him without much chance of observation, and he may moreover take his mysterious journeys under the protecting shades of night, or at times when ordinary mortals are unconscious of what is going on in this sublunary world. The Divers partake, in some measure, of the same mode of flying, but these are bold strong birds, and are, some of them, capable of performing the most distant migrations; whilst the Coots and some others of the same conformation, make very little progress, and merely use their wings for a very short distance, a few being quite unable to fly at all, such as the Great Auk and Apteryx.

Hawks are very various in their modes of flight. Kestrels hover over their prey, and are the only kind that do so, but I am by no means certain that *whenever* they hover it is over a quarry, for they so constantly do so temporarily, and again fly on that I have often suspected that it is sometimes for observation's sake, and to discover some actual object of attack; this, of course, I only put forward as a suspicion. Buzzards sail and skim most of their time, and take their prey and build on the ground; Sparrow-Hawks fly low, and hunt their ground, taking their victims on the wing or off the perch; the Hobby and Merlin have a flirting movement more like a Bank Martin; whilst the marine Falcons and Eagles are very sudden and active in their evolutions.

The Whinchats, Stonechats, Redstarts, Blackcaps, and that class of birds of the same make, are bad flyers, and only flit small distances at a time, and their habits, indeed, render more extensive powers unnecessary. Wag-tails, from the peculiar tapering shape of their bodies and long tails, rise and fall in curves; so do Woodpeckers, though here the reason is not so obvious, although no doubt it arises from their manner of opening and closing the wings at every stroke, which occasions them to fall a considerable distance until another impetus is given. The Finches have several manners, but most of them close the wings occasionally. The Buntings do the same, except the Yellow Bunting, which flirts along and seldom flies high. The Thrush kind fly more continuously, except the Missel Thrush, which flies high and rises and falls in curves to a certain extent.

All water-birds have pointed wings, more or less; some, such as the Duck tribe, fly in figures, generally in the form of a wedge; but as these have long necks, they form a sort of pilotage, so that they proceed straight forward, and do not turn so readily as those whose necks are shorter. Peewits have large hollow wings, blunt at the ends, and these act so powerfully that the body is thrown upwards at every stroke, causing a perpetual jerking movement; this is observable when a Heron first rises, but of course on a larger scale. Creepers of all kinds fly such short distances, that their mode of flight can scarcely be illustrated; but I think

it may be said to be swift and very uncertain.

It is notorious how different the manners of birds are in spring; and hence we must possess a very close knowledge of the manners of the tenants of the air at all times, to be able to distinguish them readily at that season. The Turtle Dove has so much the manner of the Common Pigeon, that he may be easily known, but he jerks along very much after the manner of a skater at full speed on the ice. The motion of the wings of the Snipe genus is very quick and continuous; and the flight of the Common or Whole Snipe very strong and swift, and generally accompanied by very short turns or twists, especially when he rises. These birds have a peculiarity, not I believe observed in any other kind; it is their custom during the summer evenings to fly round in circles at a considerable height over the moors on which they have nests, and at every turn they make to descend suddenly, at which movement the two or three first quill feathers of the wings are strangely agitated, and a loud humming sound is heard. It has been made a question how this sound is produced, but I remember, many years since, taking some pains to clear up the matter, and doing so entirely, at least to my own satisfaction; and I feel quite convinced that it proceeds from the quill feathers of the wings being opposed to the air in a curious and sudden manner at a peculiar angle, I had often heard the drumming sound in warm evenings, and at the distance from which it came it had much the character of the bleating of a sheep; indeed one of the names of this bird, and probably referring to this circumstance, is, as we know, "Heather-bleater." But, standing immediately under the bird and observing him narrowly, not only was the motion of the wings plainly discernible, but the sound produced by it so palpable in its nature, that I feel convinced any one with the same opportunity of observation, must conclude it to be produced by the air rushing through the outer webs of the feathers at a particular angle, a quivering motion being given to the wings by the bird at the same moment. Every one has heard the rushing sound produced by the swift flight of a bird immediately overhead; this, it must have been observed also, has a tendency to a humming sound; indeed, any surface opposed to the air, with a sufficiently swift motion, will produce this sound, for instance, a top. The exact mode in which the Snipe causes its wing feathers to produce this sound, would not perhaps be very easy to explain, but I am as convinced that she does so produce it, from my frequent and attentive observation, as I can be of any fact whatever which I have seen with my eyes and heard with my ears.

All the Lark tribe have an easy manner of flight, their wings being generally large, and the tertials very long; most of them open and shut the wings at intervals; but with the smaller kinds of Pipit and Titlark

this is accompanied by a jerking and ungraceful motion. The manner which the Skylark has of ascending to a vast height, singing all the time, I need not particularly describe, or that it is the Tree-lark which humbly imitates this peculiarity in spring perching on the top of a tree as it descends with outspread wings and tail. The Wood-lark, that sweet songster, has, again, a habit peculiar to himself, for when he sings, it is at a moderate height, and rising, and falling, and fluttering about the same region of air for an hour at a time; and when he descends it is with the rapidity of an arrow: his usual flight is not unlike that of the Skylark.

The flight of the Starling is continuous to a certain extent, for, although they close their wings at intervals, there is usually some considerable space between them, their flight being very swift and straightforward, except that they take advantage of every inequality in the face of the country to screen them from opposing currents of air. They always fly in companies, (except at nesting time,) and usually go out in the same direction, and very early in the morning, to feed in the fields, returning to their roosting-places at dusk, and this with such regularity, that they may be waited for with great certainty, more particularly, as small parties of three or more usually precede the main body. In November and December Wood-Pigeons have the same habit.

If we consider the flight of birds in a general point of view, whether elegant or ungainly, slow or swift, it cannot be denied that it is a most wonderful consideration; and though no more astonishing, perhaps, than our own powers of locomotion, relatively considered, it is of a much more beautiful character, and is indeed in many instances the very poetry of motion. Setting aside the magnitude of the endowment, the very blue Ether receives an additional charm from the presence of these beautiful creations, whilst the earth is enlivened by their activity and song.

Pembroke Square, Kensington, January, 1856.

THE BIRDS OF SPRING.

BY R. G. TEMPLE, ESQ.

THE subjoined, from the "Chester Chronicle," is inserted at the request of Captain J. M. Jones, of the Royal Montgomery Rifles.

The fireside season of winter being nearly over, and (thanks to all the facilities with which we are now blessed) most of us are now looking forward to take our flights to mountain, lake, or river for our summer enjoyments, permit me to draw attention to what I fear is working year by year destruction to many of those enjoyments, from mere thoughtlessness. I would not in any degree discourage any fair use of God's creatures, either

in the way of investigation or even sport; but a habit greatly prevails of useless destruction whenever either rare beast, bird, or plant is met with in our rambles. Who that has read St. John's delightful book has not grieved over the murder of the Osprey on her nest? and who that has delighted himself over the wilds of Snowdonia has not mourned over the disappearance of many a rare plant, which might well have rewarded the toils of climbing, had it been left for the examination of him who loves to see Nature's rarest productions flourishing in their native wildness? But, alas! the hand of the spoiler must root it up, and selfishly appropriate perhaps the last specimen. If a rare bird appears in any locality, numberless guns are at once bent upon its death, when surely a moment's reflection would check such selfishness, and make us consider that the more rare the bird or plant, the more we should be careful not to destroy it. Had a different and more rational spirit prevailed, we might still have had a sight of the Bustard on Salisbury Plain, and the Bittern in the marshes of Wales; but, alas! we now look for these noble and beautiful works of Nature in vain.

Next to this ignorant mischief is the wanton destruction of harmless and useful birds. The wretched and wicked habit of almost all children seeking after and taking birds' nest with no other object than mere wilful destruction, is, I verily believe, conducive to many a wicked propensity in after life; but not to follow up this moral strain too deeply, I would just at this season raise my voice to protect three particularly beautiful harmless, and useful birds which, I am sorry to say, are often killed through prejudice or wantonness. The Lapwing, Peewit, or Common Plover, is, perhaps, one of the most elegant inhabitants of air; its elegant flight, its plaintive pipe, as it gambols in airy wheels and dips over and around its mate, must have delighted every real lover of the rural ramble. One would have supposed that the thousands of slugs that it lives upon would have made it a peculiar pet of the farmer; and its peculiar vigilance in giving the alarm if either weasel, or crow, or magpie, or dog, or poacher, cross its resting-place, ought to make it sacred to the gamekeeper; and yet how constantly is it destroyed through sheer thoughtlessness. So likewise the beautiful White Owl, that best of mousers, how rare has it become! its usefulness is without a drawback, and yet how wilfully is it persecuted? I know scarcely anything so beautiful as to see this spirit of the early night silently glide along the dim hedge-row, and then, light as the foam of the wave, perch upon the picturesque stump of some old tree—who would destroy thee, if they thought but for a moment of thy usefulness and beauty? And thirdly, let me say a word for that endless mocker and imitator, that croaks, and whistles, and screams, and warbles, in mockery of all its feathered songsters, the Starling, whether we see

him amongst the countless myriads of his winter companions, winging his wonderful flight without confusion in that cloud of birds which darkens the wintry sky, or at this time of the year, when faithful to his native roof, he separates himself and mate from that companionship, to chatter and flutter on the old-accustomed chimney or parapet; if we consider the countless worms and insects, their only food, which these never-tiring searchers must consume, no reflective mind would ever think of raising a gun against them.

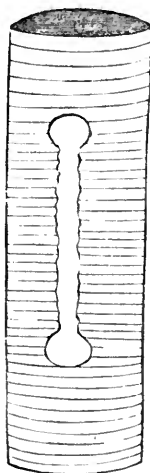
I thus only broach a subject which may most usefully be carried out through all the tribes of harmless birds; let each man have his pet, and do his best to encourage the preservation of his favourites. If I save but one, I shall not have written in vain. As our beloved Cowper, that guileless philosopher, has so divinely sung—

“The sum is this. If man’s convenience, health,
Or safety interfere, his rights and claims
Are paramount, and must extinguish theirs.
Else they are all.—The meanest things that are,
As free to live and to enjoy that life,
As God was free to form them at the first,
Who in His sov’reign wisdom made them all.—*The Task. Book 6th.*

The Lache, Chester, March 11th., 1854.

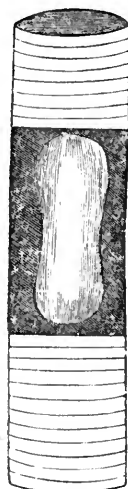
NOTICE OF A PECULIAR ORGAN IN THE TRACHEA OF THE EMEU, (*DROMARIUS NOVÆ HOLLANDIÆ*). ·

COMMUNICATED BY MR. ROBERT ANDERSON.



Undescribed organ without pouch or bag.

VOL. VI.



Bag or pouch blown out.

X

It will be necessary in describing this organ to give a short account of the natural history of this remarkable bird. The Emeu, peculiar to New Holland, is said to attain a height of more than seven feet, and in form closely resembles the Ostrich. Its plumage is of a dark brown, mottled with grey. The young are striped with brown and white. The wings are very small, being scarcely visible when lapped close to the body. Its flesh resembles that of an ox. Little is known of the habits of the animal, but, from what has been gathered by travellers, they seem to be something similar to those of the Ostrich. The eggs, as stated by Cuvier, are six or seven in number. In a carcass given to me by Mr. Sanderson, bird-stuffer in this city, I found a number of well-developed eggs. The sternum is destitute of keel. Its general appearance is that of a helmet. The posterior margin is very broad, the inferior tapering considerably inwards. The Trachea in the Emeu is one of the most interesting organs in the whole bird. About six inches from the lower larynx a very peculiar organ is seen. It consists of a large opening in the Trachea, covered by a thin membranous sack or pouch; the opening extends along ten of the rings, and dilates at each extremity into a circular foramen. The bag is attached all along the edge of this opening, which is about four inches long. The rings of the Trachea, where this organ is situated, are broader and more symmetrical in their arrangement than those of the other portion. The sack or pouch when filled with air is about four inches and a half long, (for it overlaps the foramen,) and an inch and a half in diameter.

In the Museum of Comparative Anatomy of the Edinburgh University, there is a specimen exhibited, the pouch of which has a much larger circumference than the one now described. As to the use of this organ, it is difficult to decide, but most probably it is an organ of voice. Some travellers have stated that the Emeu is heard during night to produce a loud and hoarse sound. This noise may have its origin in this organ, but before a right conclusion could be drawn, a great deal more would require to be known of the natural history and habits of the bird.

41, *St. Andrew's Square, Edinburgh.*

A CHAPTER ON INSTINCT.

BY THE REV. F. O. MORRIS.

(Continued from page 77.)

As to the Dog, being, as he is, a favoured companion of many of us, and an animal from whom this very domestication has naturally been the means of drawing forth proofs of his latent faculties, and who, from the

same cause, has afforded such abundant opportunities of observing his ways, numberless are the true and genuine accounts which establish his claim to a high place in the animal world.

"With respect to the Dog," says the Rev. J. C. Atkinson, "so many are the tales on record, which would amply serve our purpose, that one is at a loss to choose from them. I will, however, instead of selecting from any that may be already before the public, rather mention one or two instances which have occurred under my own observation, or have been narrated to me by a late officer of the Indian army, who was fully assured of the entire truth of his narrative. To begin: I was one day fishing in the Wye, accompanied by a Scotch terrier, the property of a neighbouring clerical friend. While I was engaged in my pursuit, Pepper was busy hunting a narrow bed of reeds just below me. In a few moments I heard the plunge of a water-rat, which he had disturbed. I listened for the plunge of the dog, but, to my surprise—for I knew him by no means slack in the pursuit of such game—it did not follow. I turned to see the reason, and it was at once apparent. The dog had, the moment the rat plunged, gone four or five yards down the bank; and there he stood at the edge of the water, one foot up, ready to dash upon his victim the moment it appeared at or near the surface. In another second I saw him make his spring, and a few moments later he was at my feet with the dead rat in his mouth.

Now surely we cannot say that the dog acted thus by instinct. We cannot say he acted 'without intelligence,' 'without any view to consequences,' 'without knowing for what end or purpose he acted,' or even 'without deliberation,' and 'independently of experience.' For why did he not dash into the water in instant pursuit? Why did he not run up-stream instead of in the contrary direction? Why, because he must have judged of 'self-evident things,' and 'drawn conclusions from them,' viz., *that in the water the rat would very likely elude him,—that the rat would not swim against, but with, a tolerably strong current,—that the rat must emerge some little way down stream therefore,—and that, if he went down to be ready, he would be sure to capture his prey; this being the end and motive of the action of his in question.*

I might mention several other instances of sagacity, as they are generally called, presented in the actions of this same dog. But I will rather go on to one performed by another—a retriever, to use the name given in sporting phrase. His master was shooting in a preserve in Norfolk, which, like multitudes in some parts of that county, was surrounded by a kind of earthen or turfen wall, with holes or meuses cut at intervals at the bottom of the wall, to allow of the free exit and ingress of the game. The sportsman shot at and wounded a hare, which, however, contrived to

make its escape through one of these holes, and was not seized by the retriever until it had gone to some little distance on the common which bordered the preserve. On returning to the wall with the hare, the dog endeavoured to leap the wall, as it had done when coming out in pursuit. The weight of the hare in its mouth, however, rendered the endeavour fruitless once and again. The dog soon discontinued its useless efforts; but instead of returning—like a creature *sans* resources—to its master without his game, he quietly trotted along to one of the meuses, laid the hare down at the outlet, pushed it as far through as he could, and then easily leaping the wall, seized the hare on the other side, dragged it through, and carried it to its destination. Was all this done by mere instinct? or, rather, was not this judging of, and drawing conclusions from, self-evident things, and truly acting for a given end, or under a given motive?

Once again.—A gentleman connected with the Newfoundland fishery was possessed of a dog, of singular fidelity and sagacity. On one occasion a boat and crew in his employ were in circumstances of considerable peril, just outside a line of breakers, which, owing to some change in wind or weather, had, since the departure of the boat, rendered the return-passage through them most hazardous. The spectators on shore were quite unable to render any assistance to their friends afloat. Much time had been spent, and the danger seemed to increase rather than diminish. Our friend, the dog, looked on for a length of time, evidently aware of there being great cause for anxiety in those around. Presently, however, he took to the water, and made his way through to the boat. The crew supposed he wished to join them, and made various attempts to induce him to come on board; but no! he would not go within their reach, but continued swimming about a short distance from them. After a while, and several comments on the peculiar conduct of the dog, one of the hands suddenly divined his apparent meaning:—"Give him the end of a rope," he said, "that is what he wants." The rope was thrown,—the dog seized the end in an instant, turned round, and made straight for the shore; where, a few moments afterwards, boat and crew, thanks to the intelligence of their four-footed friend, were placed safe and undamaged. Was there no reasoning here? no acting with a view to an end or for a given motive? or was it nothing but ordinary instinct? Nay, a man who had acted with such forethought and presence of mind, would have been thought worthy of high commendation for the intellectual superiority so manifested at the hour of need. And will it not savour of something like unfairness if we deny similar credit to the sagacious and intelligent dog?"

It seems to me that that which is laid down as necessary to establish a doctrine of the Church, that it should be "*quod semper, quod obique, quod ab omnibus,*" would do very well for a definition of Instinct. Not

but that even this is liable to objection, for many birds and animals are led by pure instinct to vary their habits according to circumstances. Still, it will do, as well, perhaps, as any other that could be formed. But, when we find individuals performing actions that other individuals do not perform, and led by evident motive, some exhibiting affections, and others passions, not shared by the generality of their kind, and led by those affections and those passions to perform actions exactly such as man, men guided by reason, would perform, what are we then to say? "*Equidem credo quod sit divinitus illis ingenium,*" says Virgil. For instance:—A dog, in Scotland, has been in the habit when his master went to market with him to take the next train, (from Irvine to Ayr,) visit the cattle-market, and not finding him, to come back again.

(To be continued.)

OUR FRESH-WATER MOLLUSCA.

BY E. M. A.

CONCHOLOGISTS have hitherto, in a certain measure, neglected our Land and Fresh-water Mollusca. It is true that their inferiority in beauty to their marine brethren cannot be denied, and the collector of them will regret the sight, and sound, and smell of the glorious sea, that cheered and invigorated him while collecting the marine species. Of late years, however, this branch of Natural History has been more favourably regarded. Montagu was far too good a naturalist to be ignorant of its value. Old Dr. Turton's "*Manual,*" with many inaccuracies, is still a good book; and in the beautiful work of Professors Forbes and Hanley, this division of Mollusca is treated with as much respect as its more conspicuous relatives.

Moreover, when you turn your attention to this part of creation, you will be convinced that our Land and Fresh-water Shells hardly yield in beauty to the marine species; that their delicacy of texture and shape, and especially the exquisite adaptation of each to that position which it is destined to fill in the great scheme of creation, are well deserving of your notice and study.

I can, from my own experience, testify that a collection of Land and Fresh-water Shells—call them snail-shells if you like!—forms of itself a most interesting little cabinet. Of nearly one hundred and twenty species found in Great Britain, but few—say a dozen—are so rare as not to be procured with a little trouble. Many of the rarer species are abundant in the localities where they are found, and I have discovered that exchanges, of mutual advantage, may easily be effected with brother-naturalists in most parts of the kingdom.

You have, in all probability, read descriptions of the tide-pools left among the rocks on the Devonshire coast. The accounts in Gosse's "Rambles," or Kingsley's "Glaucus," make you wonder how you have contrived to live so long by the sea-side without discovering all or any of these marvels of Nature; or, if you live inland, have inspired you with a vehement desire to proceed, without more delay, to the coast. If you do so, and follow the recommendations of the two good and talented authors I have named, you will gain a somewhat better and more substantial enjoyment than is generally to be picked up among the idle frivolities of a fashionable "watering-place."

But if relentless fate shuts you out, as it does me, from the blue ocean, the nearest ditch in your neighbourhood will afford a not unapt analogy to the tide-pools, for which you sigh, and furnish you with an ample field for wonder and reflection. Let us take a look into this one, and in any of the midland or southern counties of England, however flat or uninteresting they may be, you will have no difficulty in realizing my imperfect picture.

It is a still, bright day, early in June, and as you peer downwards into the deep, quiet water, you will again observe with wonder how everything in Nature teems with life and enjoyment. At the bottom of the transparent water the long filamentous leaves of *Hottonia palustris* present an apt comparison to the thread-like algæ of your Devonshire rock-pool, save that they have already raised above the surface their spikes of delicate pink flowers. You will see a good carpeting of *Myriophyllum spicatum*—another filamentous, though less conspicuous plant; and, possibly, that mysterious intruder, *Anachoris alsinastrum* has already insinuated its soft green masses into your pool. In the more shallow water the rigid forms of *Hippuris vulgaris* and *Iris pseudacorus* will probably appear, and some of the deeper water be shaded with the broad leaves of the water-lily. And now for the inhabitants—their name is legion—of this bright and variegated forest. Those large beetles, "sculling" about among the *Hottonia* leaves, are the *Hydropiceus*—the largest of our aquatic *Coleoptera*. On the soft mud at the bottom a couple of water-newts, or "efts," are lazily travelling, and seem to wonder at the vagaries of half a dozen large "horse-leeches," which are meandering about in full enjoyment of life and liberty. The submerged stalks of the aquatic plants are covered with the young of a hundred varieties of gnat and water-fly, from the delicately-formed young of the *Tipulæ*, to the great locust-like larva of the *Libellulæ*. But turn from these wonders to the Mollusca, for it is these that I now want you to notice.

Floating on the surface, and looking as if they were walking on an inverted pane of glass, are four or five species of *Planorbis*. *P. corneus* is

a noble and common species, and both the shell and animal will well repay your observation. Those two compressed species, which look hardly thicker than an ordinary card, are respectively named *Vortex* and *Spirorbis*, and it requires a good eye to discriminate between them. The other species, especially *P. nitidus*, the rarest of the genus, affect deeper water. *P. marginatus* and *P. carinatus*, two closely-allied species, rejoice in the cool under-surface of a water-lily leaf. They may be most easily distinguished by the dark colour of the animal of *P. marginatus*.

Yonder fine shell, tapering up into a lofty spire, which also floats shell downward, is called *Limneus stagnalis*, and is common in the middle and south of England. It is found, though rarely, as far north as York. In Oxfordshire it is sometimes more than two inches in length, and specimens from the Danube are said greatly to exceed ours in size.

If you examine the wet mud by the side of your pool you will probably find two other *Limnei*—*palustris* and *truncatulus*, both of which are common though interesting mollusks. *Limneus auricularius*, a handsome and large shell of the same genus, is crawling on the mud at the bottom. As that large leech undulates past him, he shrinks, as though alarmed, into his shell; and with reason, for your leech, who is a thorough cannibal, and can rarely gratify his taste for human or animal blood, will not unfrequently make up the deficiency with the soft and shrinking body of the unfortunate water-snail. I have caught him in the act.

In the deepest part of the pool you may, if you are fortunate, find a specimen of the beautiful and rare *Amphipeplea glutinosa*, whose shell is enveloped in a curiously-spotted, slimy mantle. When it is extracted therefrom, it is of most delicate and beautiful texture. It is found, though rarely, near Oxford, and, more abundantly, in Norfolk.

Nor are bivalves, which form so beautiful a part of the Marine Shells, unrepresented in our pool. Stir up the mud with a stick, and when the water has cleared, you will find the gaping shells of various species of *Cyclas* and *Pisidium*, which have left their beds to see what the "troubling of the waters" has done for their support. *Cyclas lacustris* is as delicate and beautiful a bivalve as you can see, and *C. rivicola* is a handsome shell—very abundant in the sluggish Oxfordshire streams. The genus *Pisidium* is difficult to understand. Perhaps the best solution is that of the naturalists who affirm that there are only three species—*amicum*, *pulchellum*, and *pusillum*. I have reason to know that one of the best living authorities holds this view.

You will doubtless find many other species which I need not now enumerate. Your apparatus for searching is simple—a piece of coarse canvass on a hoop, at the end of a pole, will make as effective a fresh-water dredge as you can desire. A small ladle of wire-gauze made to fix on the end

of a walking-stick is also convenient for fishing up specimens which you may see at the bottom of the water. By carrying a few small phials you may bring home and examine at leisure the smaller species.

Perchance I may, at some future time, while away the solitude of another long winter's night, by writing somewhat of our *land* species. If what I have now scribbled makes you turn your attention to this very interesting branch of God's works, my labour will not have been in vain.

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 115.)

VESPERTILIO.

- | | |
|---|---|
| Vespertilio barbastellus, <i>Schreb. Tem.</i>
<i>Linn. Geoff. Desm. Fisch. Schinz.</i>
Barbastellus communis, <i>Bonap. B.</i>
Daubentonii, <i>Bell.</i> | <i>Gray. Bell. Temm. Fisch. Schinz.</i>
<i>V. noctula, Geoff. V. murinus, Pal.</i>
<i>V. Wiedii et rufescens, Brehm.</i> |
| Vespertilio auritus, <i>Linn. Schinz. V.</i>
<i>cornutus, Faber. V. otus, Boje.</i>
Plecotus communis, <i>Less. Desm. P.</i>
brevimanus, <i>Jenyns.</i> | Vespertilio noctula, <i>Schreb. Schinz. V.</i>
<i>lasiopteris, Schreb. V. proterus,</i>
<i>Kuhl. V. ferrugineus, Brehm. V.</i>
<i>serotius, Geoff.</i> |
| Vespertilio brevimanus, <i>Schinz. Ple-</i>
<i>cotus brevimanus, Bonap. Jenyns.</i> | Vespertilio discolor, <i>Kuhl. Tem. Fisch.</i>
<i>Schinz. V. serotinus, Pall.</i> |
| Vespertilio murinus, <i>Schinz. V. my-</i>
<i>otis, Bech.</i> | Vespertilio Savii, <i>Bonap. Tem. Schinz.</i> |
| Vespertilio Bechsteinii, <i>Leisl. Kuhl.</i>
<i>Temm. Schinz.</i> | Vespertilio Leucippe, <i>Bonap. Temm.</i>
<i>Schinz.</i> |
| Vespertilio Nattereri, <i>Kuhl. Schinz.</i> | Vespertilio Aristippe, <i>Bonap. Temm.</i>
<i>Schinz.</i> |
| Vespertilio mystacinus, <i>Leisl. Kuhl.</i>
<i>Temm. Schinz. V. humeralis, Tem.</i>
<i>V. emarginatus, Tem. V. Schinzii,</i>
<i>Brehm?</i> | Vespertilio Kuhlii, <i>Temm. Schinz. V.</i>
<i>vispistrellus, Bonap. V. marginatus.</i>
<i>Mick. Schreb.</i> |
| Vespertilio Nillsonii, <i>Schinz. V. Kuhlii.</i>
<i>Nillson.</i> | Vespertilio albolimbatus, <i>Schinz. V.</i>
<i>marginatus, Rüpp. Temm.</i> |
| Vespertilio Daubentonii, <i>Leisl. Kuhl,</i>
<i>Temm. Fisch. Schinz. V. emargi-</i>
<i>natus, Jen. V. ædilis, Jen.</i> | Vespertilio Leisleri, <i>Kuhl. Tem. Schinz.</i> |
| Vespertilio dasycneme, <i>Schinz. V.</i>
<i>limnophilus, Temm.</i> | Vespertilio brachyotos, <i>Temm. Schinz.</i> |
| Vespertilio emarginatus, <i>Geoff. Schinz.</i> | Vespertilio ursula, <i>Wagner. Schinz.</i> |
| Vespertilio Capaccini, <i>Bonap. Schinz.</i>
<i>V. megapodius, Temm.</i> | Vespertilio Pipistrellus, <i>Schreb. Geoff.</i>
<i>Temm. Schinz. V. pygmæus, Leach.</i>
<i>V. pusillus, Brehm.</i> |
| Vespertilio serotinus, <i>Schreb. Kuhl.</i> | Vespertilio stenotus, <i>Schinz. V. me-</i>
<i>lanotus et stenotus, Brehm. Schinz.</i> |
| | Vespertilio minutissimus, <i>Schinz.</i> |
| | Vespertilio Bonapartii, <i>Savi. Bonap.</i>
<i>Schinz.</i> |
| | Vespertilio Nathusii, <i>Schinz.</i> |

- Vespertilio Aleythoe*, Bonap. Schinz.
Vespertilio Schreibersii, Kuhl. Temm. Schinz. V. Ursinii, Tem. Miniop-
 terus Ursinii, Bonap.
Vespertilio collaris, Schinz.
Vespertilio Isabellinus, Temm. Schinz.
Vespertilio leucomelas, Rüpp. Temm. Schinz.
Vespertilio megalurus, Temm. Schinz.
Vespertilio minutus, Temm. Schinz.
Vespertilio tricolor, Smuts. Tem. Schinz.
Vespertilio epychrysus, Smuts. Schinz.
Vespertilio platycephalus, Smu. Schinz.
Vespertilio Temminckii, Rüpp. Schinz. V. Rüppellii, Fisch.
Vespertilio dasythrix, Temm. Schinz.
Vespertilio hesperida, Temm. Schinz.
Vespertilio molossus, Temm. Schinz.
Vespertilio pachypus, Temm. Schinz.
Vespertilio macellus, Temm. Schinz.
Vespertilio macrotis, Temm. Schinz.
Vespertilio circumdatus, Tem. Schinz.
Vespertilio imbricatus, Horsf. Temm. Schinz.
Vespertilio Harpyia, Temm. Schinz.
Vespertilio suillus, Temm. Schinz.
Vespertilio Hasseltii, Temm. Schinz.
Vespertilio tenuis, Temm. Schinz.
Vespertilio Abamus, Temm. Schinz.
Vespertilio Akokomuli, Tem. Schinz.
Vespertilio coromandelicus, F. Cuv. Temm. Schinz.
Vespertilio Horsfieldii, Temm. Schinz.
Vespertilio blepotis, Temm. Schinz.
Vespertilio papillosus, Temm. Schinz.
Vespertilio Hardwickii, Tem. Schinz.
Vespertilio adversus, Hors. Temm. Fisch. Schinz.
Vespertilio pictus, Schreb. Geoff. Hors. Temm. Schinz. V. Kirivoula, Fisch. V. ternatanus, Seba.
Vespertilio tralatitius, Horsfield. Tem. Fisch. Schinz. V. Gartneri, Kuhl.
Vespertilio macrodactylus, Tem. Schinz.
Vespertilio timoriensis, Geoff. Temm. Fisch. Schinz. Plecotus timoriensis, Guerin.
Vespertilio malayanus, F. Cuv. Temm. Schinz.
Vespertilio brachypterus, Tem. Schinz.
Vespertilio Oreias, Temm. Schinz.
Vespertilio turcomanus, Ever. Schinz.
Vespertilio volgensis, Ever. Schinz.
Vespertilio irretitus, Wieg. Schinz.
Vespertilio phajops, Temm. Schinz.
Vespertilio ursinus, Temm. Schinz.
Vespertilio ferrugineus, Temm. Schinz.
Vespertilio Hilarii, Schinz. V. de St. Hilaire, Tem. V. brasiliensis, Des. Geoff.
Vespertilio carolinensis, Geoff. Schinz.
Vespertilio erythrodactylus, Temm. Schinz.
Vespertilio leucogaster, Prinz. Max. Schinz.
Vespertilio velatus, Temm. Schinz.
Vespertilio Caroli, Temm. Schinz.
Vespertilio Arsinoe, Temm. Schinz.
Vespertilio Gryphus, F. Cuv. Temm. Schinz.
Vespertilio Salarii, F. Cuv. Temm. Schinz.
Vespertilio Georgianus, F. Cuv. Temm. Schinz.

(To be continued.)

NATURAL HISTORY SOCIETIES.

TO THE EDITOR OF "THE NATURALIST."

You have done so much to extend our interest for natural objects, which I hold to be one of the purest pleasures within the reach of human knowledge, that I hope you will lend me your assistance in promoting

what seems of easy attainment, and of comparatively little trouble. Whenever I visit for the first time a new neighbourhood, I long for some source of information as to its natural productions; but how seldom can we find any one who can say what birds, what plants, what geological peculiarities, or what remains of antiquity may abound there; and yet what would be easier than that each parish should have its record of local productions, and local objects of interest. Of what infinite value to all naturalists has been, and still continues, "White's Natural History of Selborne;" and how easy would it be to form on a simple scale a parish register of the natural and historical statistics of each locality.

The clergyman and his family would of course be the persons to whom we should look in the first instance for setting such a record on foot; and in every parish would be found three or four, or half-a-dozen people who would gladly unite in such an effort, according to the peculiar pursuits of each. Let those who are fond of animal life record the birds, (how easy to set down the arrival of summer birds,) the beasts, or the insects, according to the taste of each; others the flowers, others the plants, others the strata and formations geological, and for each to bring at some given and fixed time of each year what he has observed or what he has discovered; and have such statistics arranged every year in the form of a register, and kept at the reading-room or at the parsonage, open for inspection and study. Four or six persons in each locality would amply suffice, with no sacrifice, but on the contrary, by merely increasing their own sphere of pleasure and information. The first formation of such a record would, of course, be the most onerous; but I verily believe that if the thing were once proposed, there is not a parish in which there would not be found plenty of persons who would think it a pleasure to contribute his individual exertion to such a task; and when once formed, the work of subsequent years would be as nothing.

I was first impressed with the desirableness of such a record by visiting a parish in which the clergyman's wife had painted every flower natural to the locality, setting down its class and time of flowering: it formed a volume of exquisite beauty and delight. Will you therefore allow me, through your columns, to suggest the formation of a Parochial Naturalist's Record. Had such existed in the olden times and continued down to the present, what a treasure would it have been, and how many things past and for ever gone and forgotten, would it have preserved to us; but let us remember that our day will ere long be the olden time, and let us preserve for those who follow what we have lost for want of a little thought and a little pleasurable exertion.

Since writing the above, I have been informed that the Rev. Professor Henslow, some years ago, started in his parish a local register, not confined

to natural objects, but which embraces all local facts, and which is printed and distributed annually in a broad sheet. I therefore have not the right to claim the merit of originator of this desirable object, though I had never heard of its adoption when I wrote; and I am only too happy to find that my wish and purpose are participated in and adopted by such; it renders the suggestion of tenfold value being so confirmed.

R. G. TEMPLE.

The Lache, Chester, May 20th., 1856.

Miscellaneous Notices.

Anecdote of a Cat.—A gentleman in removing to a new residence, (at Lady-day,) took with him his cat, which for the first few days appeared tolerably at home; but a strange dog of a neighbouring house perceiving pussy, rushed after her. To escape his fury, she took refuge in a tree; there the timid creature remained without any food for four days, for the dog was tied up very near to the tree. On his being removed out of sight, the cat at once descended.—G. R. TWINN, Birmingham, May 2nd., 1856.

Nidification in Norfolk.—On March 28th. I received two specimens of the eggs of the Missel Thrush, taken three days previously at Runhall. On March 27th. nests, containing eggs, were found at Marlingford—those of the Robin, Song Thrush, and Missel Thrush. Specimens of the Rook's eggs were taken at the close of February, at the same place.—Idem.

The Eagle lately shot in the Park.—The following notice of the destruction of the Eagle in Windsor Forest, a few weeks ago, appears in the current number of Dickens's "Household Words," under the heading, "A Royal Visitor." It is from the pen of F. Buckland, Esq., assistant-surgeon of the 2nd. Life Guards, the regiment with which the officer referred to in the narrative is connected. "The Royal Forest of Windsor has lately been honoured by a visit from a royal bird. The Eagle of the North visited the domains of the Queen of the South. The particulars are as follows:—On the afternoon of the 12th. of December last, as one of the officers of the garrison of Windsor was riding in the Great Park, not far from the statue of King George the Third, at the end of the Long Walk, he was surprised to see a large bird on the ground gorging himself with a rabbit. He advanced towards it, but the bird flew up into a tree. When on the tree it appeared to have a chain round its leg; but this was afterwards ascertained to be a portion of the rabbit he had just been eating. The pursuer then made out clearly that this large bird was an Eagle,—a most unusual visitor to the Royal Forest. He rode off, therefore, im-

mediately to the keeper's lodge with the news. The keeper, while mounting his pony, stated that this bird had been seen about the Forest four or five days, but had always kept out of shot. When they both got back to the place where the bird was sitting, the keeper concealed himself with his gun, while the officer rode round the bird, endeavouring to drive him over the ambush. Off he went at last, but flew wide of the keeper. Then came the riding part of the business, partaking more of the character of a steeple-chase than of hunting. By dint of hard and difficult galloping among rabbit-holes, thick ferns, and open drains, the Eagle was again marked down in a clump of trees. Then followed a little stalking. The keeper on his pony and his companion on his horse advanced carefully; but the cunning bird would not allow them to come near. The keeper then got off his pony, and walked alongside the horse, which was of a grey colour, and seemed not to alarm the bird so much as the pony, which was of a dark colour. After a few steps, the keeper suddenly and quietly glided behind a tree, and the grey horse and his rider advanced further. To divert the attention of the suspicious bird, the latter made as much noise as he could, tapping the saddle with his whip, riding among the thick ferns, and pretending all the careless unconcern he could assume. In the meantime the keeper got near, and fired both barrels. The bird flew away; but had been evidently hard hit, for his flight was laboured and near the ground. He alighted at last on the bough of a young tree, where his drooping wings and fainting form made him look more like an old coat hung up as a scarecrow than an Eagle. The pursuers then both rode up. Again, although wounded and bleeding, the courageous bird started off; but he could not fly far. It was his last flight; for, in another minute he dropt dead, shot through the right eye. The former shot had hit him in the body, but had in no way damaged his plumage. Shortly afterwards we inspected this noble bird, and found him to be a fine specimen of the White-tailed Sea-Eagle. He measured from wing to wing eight feet; the length of his body from his beak to his tail was three feet two inches; and he weighed ten pounds. From his plumage, which was in excellent condition, it seemed probable that he was a wild bird; there being no marks either of cage or chain to indicate that he had even been in captivity. His skin has been well preserved by a Windsor bird-stuffer, in a well-chosen attitude. Three or four years ago, a Golden Eagle was shot in the Forest, and presented by his Royal Highness Prince Albert to Eton College."

FROM "THE TIMES."

Sparrow War.—In further illustration of the suicidal folly of Sparrow extermination, permit me to quote the opinions on this subject of Buffon and Bewick. The former says,—"The number of caterpillars a pair of

Sparrows will destroy in feeding their young amounts to about four thousand weekly." The latter naturalist, who took much interest in their behalf, says,—“In the destruction of caterpillars they are eminently serviceable to vegetation. They likewise feed their young with butterflies and other winged insects, each of which, if not destroyed in this manner, would be productive of several hundreds of caterpillars.” In country places the custom of paying for “Sparrows’ heads” out of the church-rates still exists. The churchwardens of Solihull, in Warwickshire, annually pay a considerable sum for the destruction of these unfortunate innocents, and are reimbursed, at the end of their year of office, by the trustees of the parish charities out of moneys bequeathed to their trust for “pious and charitable uses.” The same enlightened parties expend a further sum out of the same source in the slaughter of hedgehogs, under the vulgar notion that they plunder the udders of the cows, and extract the milk. The principal food of hedgehogs consists of worms, carrion, the larvæ of insects, and sometimes the farinaceous roots of plants. Hence they are of considerable service to man; and, owing to the smallness of the mouth, are physically incapable of the crime alleged against them. It is to be hoped that the publicity given to these absurdities will attract the notice of the Charity Commissioners, and that that body will shortly give the trustees of Solihull a practical lesson in natural history, by compelling them to replace the money they have so palpably misapplied; and that the churchwardens will be left, should they still persist in their exploded prejudices, to pay the future premiums for “urchins’ and Sparrows’ heads” out of their own private purses. This effected, and a conversion to the opinions of Buffon and Bewick will certainly and speedily follow.—NASH STEPHENSON, Shirley Parsonage, Solihull, December 22nd., 1855.

The Nightingale.—I was out one morning for the purpose of procuring specimens of our summer-visiting birds, when I had the pleasure of hearing (about five o’clock in the morning) the Nightingale singing on the top of an oak tree, which I should consider was thirty feet high, as the beautiful songster was on the very top of it. I listened to it for some time. I had the good fortune, if I may call it so, to kill it, and without any injury to the plumage. It was a beautiful bird, and much larger than others I have seen. It is now with a female in my small collection.—J. MELHUSH, Taunton, May 1st., 1856.

The Shieldrake, (Tadorna vulpanser.)—I lately purchased a very fine stuffed specimen of the Shieldrake, which I judged from its plumage and size to be a male bird, but the knob on the bill is deficient. Have you ever known it to be imperceptible after stuffing, as I can see no sign of it on the bill?—Idem.

On the 1st. of December of last year there appeared in the "Gardener's Chronicle" an alarming account of the ravages of a Gall Nut on the oak trees of the southern counties, more particularly Devon and Somerset. The eastern part of Cornwall is also suffering from the same cause, but not to such an extent as described by Sylvanus, the mischief as yet being confined to the hedge-rows, where, in many instances, they are to be found in vast abundance: our woods and coppices are not yet attacked. I have seen with great pleasure, this spring, that the Galls have been attacked by birds (I believe the Titmice,) for the sake of the grubs, and that thousands on thousands have been so destroyed; indeed so much so as to lead me to hope that a great check will be found by this means to their further serious increase. I have sent two of the flies, (*Cynips Quercus*,) so says Sylvanus, which I procured from Galls some years since; they are not set up as an Entomologist would like them, but perhaps if you have not before seen any, they may be of interest to you. The Galls are altogether different to the Galls of commerce, being perfectly round, and only having a hard crust, the remainder being very like compressed saw-dust, not of the dense structure of the Aleppo Gall. If you have not seen specimens I should be glad to forward some to you. Our summer birds are arriving; the Chiff-chaff as early as the 18th. of March, Whinchat on the 19th.; the first Willow Wren I heard was on Monday last, Blackcap on Sunday. Peacock Butterflies are very abundant this spring. A few Martins made their appearance yesterday.—STEPHEN CLOGG, Looe, in a letter to the Editor, April 17th., 1856.

Ants.—Some days since in our greenhouse was discovered in an orange tree, laden with blossom, a number of small black ants, rushing to the top of the branches. No Aphides were there for them "to milk," and the conjecture was, that the soft stems must be very attractive to these little creatures; for upwards of a dozen buds were found with rough edges, as if gnawed off by them, or punctured to extract the sap, which was the cause of their ultimately falling off. On an adjoining plant were many ants also, and as that was a very recent purchase, it is supposed the ants came with it; hence their appearance on the orange-tree. It is a very interesting sight to watch how readily and hurriedly a troop of ants will disperse from an object, when once an alarm has been given. It is very curious and mysterious how they communicate their signals, for the moment one apprises another, the chain seems to be continued, till all know it. Any information on this matter would be highly interesting. I have met with an anecdote in Bishop Colenso's "Ten Weeks in Natal," which shews the rapidity with which an ant conveyed his will, or want, and how instantaneously it was attended to. Many who read it will, doubtless, be familiar with scores of similar illustrations:—"At the place where we off-saddled and bathed,

(Weenen,) Mr. Shepherd witnessed a curious incident in insect life. He found a cockroach on his coat, (one of those, no doubt, which had crept into our pockets while we slept in the Kaffir hut two nights before,) and flipped it off upon the ground. Presently a large ant came up, and nibbled at him, and then ran off, post-haste, to its hole. In an instant it came speeding back, with a troop of its companions, who seized on the unfortunate cockroach, which had hitherto been lying without motion in a state of stupid unconcern; but now, becoming aware of its danger, began to struggle violently with its assailants;—but all in vain; the ants, with might and main, pulling ‘one and all’ together, carried off the poor wretch for their prey.” Ants are particularly partial to sweets, for I have seen them swarm round a jar of treacle, and many venture in, to their death. I remember hearing of a person once pouring hot water on an ant’s nest to destroy them, and more than half of them escaped, for they slowly crawled away from “their deluge.” My informant was not so much surprised at the *cruelty* displayed, as the *rashness*, for to disturb ants in any way, was always attended with ill-luck.—G. R. TWINN, The Elms, Birmingham, May 2nd., 1856.

Method of Blowing Eggs.—The instruments I use are a steel drill and glass blowpipe, both of which may be procured from the Repository, 30, Tavistock Street, Covent Garden, London. Before blowing an egg, I always cleanse it thoroughly with soap and water, and afterwards wipe off the moisture with a small piece of sponge, otherwise the shell would become so slippery that the risk would be great of letting the egg slip whilst blowing it. Then grasping the egg firmly, I, with a fine needle, pierce one side of it, as nearly the middle as possible; if the colour be uniform, of course it is immaterial at what point the puncture be made; if, however, the reverse, the needle should be introduced at the place where the marking is least characteristic. Taking now the drill, I introduce the point of it into the hole already made, and by working it backward and forward betwixt the forefinger and thumb, giving it a semi-rotatory motion. In a very few turns, if the egg be moderate in size, a hole sufficiently large to admit of the contents being extracted by means of the blowpipe, will be the result. Next placing the thin end of the glass-pipe opposite the orifice in the egg, and blowing sharply, the contents will speedily escape. The egg should now be thoroughly cleansed from any matter on which mites can feed, by several internal applications of cold water, and being then cautiously dried with a silk handkerchief, is ready for the cabinet. I ought to mention that with eggs less in size than those of the Dipper, great caution should be used in the application of the drill, and that the blowpipe would be improved by being constructed of brass.—H. SMURTHWAITE, Richmond, Yorkshire, March 20th., 1856.

Review.

The Autobiography of a White Cabbage Butterfly. By MICHAEL WESTCOTT.
With a few Introductory Remarks by BEVERLEY R. MORRIS, Esq., A.B.,
M.D. Wells: W. AND R. GEORGE.

This is a pleasant little tale, and well suited for giving children a proper notion of the transformations of insects.

Proceedings of Societies.

The London Working Entomologists held their usual Monthly Meeting at 52, High Holborn, when two specimens of *Notodonta Carmelita*, taken at West Wickham, were exhibited.

The Secretary begs to inform the members that he has a cabinet of British Insects, for the use of the members to name their specimens by.
—JAMES GARDNER, Hon. Sec.



The Querist.

The Dabchick.—If this should meet the eye of the Rev. J. C. Atkinson, I should be glad if he would explain the following apparent contradiction in his account of this bird in the "Zoologist."—At page 500, he writes, "I do not remember a single instance in which the Dabchick I was watching, did not re-appear after diving," adding in a note, "I speak of course of experiments made when the state of the weeds was such as both to permit me to make them with certainty, and at the same time give the bird the option of remaining submerged, if it would;" and again, "I never failed to see it again a few seconds afterwards." Yet in the following page, 501, he says, "I could never get a second glimpse of the little diver after he had once caught sight of me, which he was pretty sure to do, at least as soon as I espied him. What became of him I was at a loss to discover."—F. O. MORRIS, April 29th., 1856.

In the edition of "Montagu's Ornithological Dictionary," for 1831, I cannot find the Great Crested Grebe at all. The editor indeed gives that name, but only as "a name for the Loon;" and on referring to "Loon," we find, as might be expected, the *Great Northern Diver* described. Can any one throw light on the subject? Also, he calls the *Black Guillemot* the *Guillemot*, and describes the *Guillemot* by the trivial name of *Willock*.
—F. O. MORRIS.

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ERRATA.—Page 156, for 'obique,' read 'ubique.'—Page 157, for 'with him,' read 'without him.'

* * * Correspondents are particularly requested to write the names of persons, places, and things VERY DISTINCTLY.

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ON THE INCONGRUOUS ATTACHMENT OF ANIMALS.

BY MR. THOMAS FOGGITT.

IN almost every periodical I have the privilege of perusing, many attractive and beautiful anecdotes concerning animals are recorded. Amongst them none prove to me more interesting than those illustrating strong instances of their affection to their young, and, more especially, those relating to the great attachment they frequently exhibit to the young of other species. Anecdotes on this subject I always read with the greatest avidity, and deem them a fountain from whence emanates a never-failing stream of pleasure.

This incongruity of attachment occurs, almost without exception, when the animal is deprived of a part, or the whole, of its progeny; consequently we may infer that it is occasioned by a redundancy of superfluous milk. When so, the mammæ become over-distended, and the animal is made to suffer the most extreme pain. It is then, uttering the most pitiable cries, she wanders about in search of some other young, if not of her own kin, of an incongruous nature, and when she has found the object of her perambulations, allows them to suck her without the least prohibition, and at the same time expresses her gratitude by treating them as if they were her own—fondling, caressing, and watching over them, defending and protecting them from the encroachments of all others, which might look upon them with a suspicious or predatory eye.

Numerous and interesting anecdotes might be furnished for the illustration of this subject, but the following, though brief, will probably suffice. The first, which appeared in a Liverpool paper in the former part of the past year, I now bring to the notice of the reader:—

“A cat, belonging to the Albert Dock Warehouse, Liverpool, gave birth to six kittens. It was deemed necessary to destroy four of them, and they were accordingly drowned. The remaining two were placed, along with the mother, in some loose cotton, collected for the purpose in a box, in one of the warehouse rooms. On removing the box a few mornings after, to give puss her usual breakfast, great curiosity was excited on seeing a third juvenile added to the number, and the astonishment was still greater when the third was discovered to be a young rat, which the cat had taken from its nest in the night-time, and brought home as a companion to the kittens she was then suckling. The young rat was very lively, and was treated by the cat with the same attention and care as if it were one of her own offspring.”

Another instance of this incongruous attachment I may as well narrate:—A bitch, belonging to a person at Sutton-under-Whitestonecliff, in the immediate vicinity of this place, after giving birth to a litter of puppies,



was deprived of three of them. A few days after she was seen to leave the premises, and be absent for a considerable period of time, and soon after her return, she was noticed to leave them again. On looking at them when she returned a second time, two young hares, to the utter amazement of the owner, were found to be added to the number. The adopted young were treated by the parent animal with the most affectionate tenderness, and under her care they thrived very well.

Again, according to E. Jesse, this incongruous attachment in animals may arise either from the feelings of natural affection, which every mother is possessed of, or else from that love of sociability, and dislike of being alone, which is possessed more or less by every created being. The subjoined anecdote, taken from his "Gleanings in Natural History," will, no doubt, convey to the reader the veracity of this theory.—

"A gentleman, residing in Sussex, had a cat which shewed the greatest attachment for a young blackbird, which was given to her by a stable-boy for food a day or two after she had been deprived of her kittens. She tended it with the greatest care; they became inseparable companions, and no mother could shew a greater fondness for her own offspring than she did for the bird."

Trusting that this concise paper may not prove uninteresting to the general reader, I now lay down my pen, and bid farewell.

Thirsk, April 11th., 1856.

* * * The first suggestion as to the supposed pain suffered by the parent animal, is negatived by the idea suggested afterwards, of the love of sociability being the cause of the adoption of other species; and still more by the fact of the Blackbird being fostered, as certainly a bird could give no relief; neither could the "dislike of being alone" be the cause, as in the first two instances mentioned the animals had some of their young left with them. Nevertheless, Mr. F.'s communication is an interesting one.—F. O. M.

THE YOUTH OF BIRDS.

BY O. S. ROUND, ESQ.

WE talk of birds generally as we are generally acquainted with them, but there is a very interesting study connected with their lives, which it belongs rather to the "bird-fancier," or to him who keeps birds, to consider, and therefore a branch of the subject which we take little heed of;—I mean their "youth," for we jump at once to their maturity, little recking how that maturity was attained, but content to see them poised on airy wing, and gambolling amongst the branches of our deciduous woods, in full possession of plumage and song. It may be said that their youth is a brief period, and so it is, but not for that reason to be disregarded, and more particularly as it is a study which we have to go so little a way to bring under our immediate sphere of observation. I may almost say that the

first dawns of our memories, if we are country-bred, is connected with this subject. What boy can remember anything much earlier in his associations of ideas, than the delight with which he pounced upon some luckless Hedge-Sparrow's nest, or saw for the first time a Swallow bringing mud under the veranda. But these memories are connected with strings of eggs and pretty nests, and fall far short in interest of the hatching of the eggs, and experience soon teaches the veriest urchin that when he sees the eggs look glossy, there is no more "blowing" for him, for they are "set-hard," and very few ever think of taking a nest with young ones, unless it be to rear up, which is usually done by placing them, nest and all, in a small cage at the spot where they were hatched, and the old birds come and feed them.

So impressed was I, in my young tender-hearted days, with the cruelty of taking young birds, that I remember crying as if my heart would break, when I saw a village boy commit the unworthy act, and witnessed the agony of the poor little parents. It was a Greenfinch's nest, and the young were taken for mere wantonness, and soon perished miserably, after they had served for the sport of an hour. If birds are a nuisance, and must be destroyed, let it be done at once, but let us not torture them unnecessarily by wounding them in the tenderest point, in which, for the time at least, it is evident their sensibilities are equal to our own!

Now, in the human subject, youth and maturity differ so little that they would not be thought for a moment to belong to distinct races of beings, though of the same genus, but this is by no means the case with birds, and it needs but a single illustration to shew this.—Look at the young of the Redbreast, and tell me if an uninitiated person, who had never seen one before, would identify it with the parent bird. Just the case with the Cuckoo; would any one take him to be the offspring of the well-known harbinger of spring?—assuredly they would not; and if this holds good, as it does with many of our land-birds, how much more with those whose home is on the waters; here even a good ornithologist may fail, unless he has personal experience in the matter; in fact, until a bird is several months old, unless in the case of our summer visitants, he can hardly be said to bear anything like a close resemblance to his parents. There is certainly this analogy between birds and human creatures, that both in youth more resemble the mother. Thus Pheasants, Grouse, Ducks of various kinds, and many other water-fowl, and numerous other species, take a nice observer to distinguish the young cock birds for a long time after they fly, and we know very well that were it not for the turned-up hat amongst young children, we should be puzzled to find out the boys sometimes. Amongst the water-fowl indeed, until the plumage appears, they are absolutely undistinguishable. Between land and water-birds there is this great

distinction—that the land-birds are hatched with rudimentary and perceptible wings and tails, whilst the water-birds are covered with down until they are well nigh full-grown, when the plumage comes suddenly as it were, and their appearance totally alters; and here we perceive the hand of wisdom adapting the means to the end; for what peril would await the denizens of the woods and plains, were they helplessly clad in down only, and unable to raise themselves from the earth, as is the case with their aquatic brethren? Whereas the liquid element, which is the home of these latter, itself furnishes their safety, and unless it is that pike and rats get hold of a few, I know of no enemy that they have, and we know that the instances in which they fall a prey to these are few; securely hid and screened from harm by the green water-plants, and the solitude of the silent pool, at ease and in security their youth is past, and I remember well, when a boy, the delight with which I have sat on the margin of such a scene at early summer morn, an unperceived spectator of the sight, and watched the Duck lead forth her little train from the sedgy margin into the open water, looking like dark beads upon the surface, and with what facility, at the slightest alarm, they concealed themselves, so as in a moment to be perfectly invisible. But far prettier and more interesting than these are the offspring of the minute water-fowl—the Moorhens, the Dohicks, and the Teal, like so many little black puff-balls, and nothing else.

As I have before hinted, our summer visitants stand on a different footing; it appears in some sort necessary that their youth should be quickly got over; for whatever facilities the Straits of Gibraltar and the narrow channel between England and France (supposing they crossed at the narrowest possible point) might afford them, such a journey is no joke to a being scarcely three months old, as is the case with many, and hence they speedily arrive at a very decent degree of resemblance to their parents ere they depart for other realms; and with the Swifts this is a real wonder. Gilbert White took notice of this, and I may be perhaps pardoned for inserting a short extract from his book upon this point:—

“On the 5th. of July, 1775,” he says, “I again untiled part of the roof over the nest of a Swift; the dam sat in the nest, but so strongly was she affected by natural ‘storge’ for her brood, which she supposed to be in danger, that, regardless of her own safety, she would not stir, but lay sullenly by them, permitting herself to be taken in hand. The squab young were brought down and placed on the grass-plot, where they tumbled about and were as helpless as a new-born child. While we contemplated their naked bodies, their unwieldy disproportioned *abdomina*, and their heads too heavy for their necks to support, we could not but wonder when we reflected that these shiftless beings, in little more than a fortnight, would be able to dash through the air almost with the inconceivable swiftness of

a meteor, and perhaps in their migration must traverse vast continents and oceans as distant as the equator! so soon does Nature advance small birds to their '(h)elikia,' or state of perfection; while the progressive growth of men and large quadrupeds is slow and tedious."

There are, however, some of our small native birds which at once put on such a portion of their mature plumage as to be recognised at once, as the Wrens and the Titmice, whilst the White Wagtail is grey till the first moult, and Starlings are brown. Woodpeckers are also dark grey speckled, although the red head is partially developed, and their shape is unmistakeable.

With regard to the voices of young birds, they are all more or less sibilous, and all have what is termed the "call-note"—the first attempts at song being termed "recording," and very pretty these little attempts at song are. I know of no prettier sight than to see a pair of little heath birds, Stonechats for example, feeding their young—a sight that I have watched for hours, and when I returned from the sweet contemplation, have felt my mind refined, as it were, by it; indeed thus to enjoy, if it is only an hour, in such society, amidst the pure air of Heaven, rendered aromatic by the surrounding wild herbage, is a treat sufficient at any time to change the current of one's thoughts in a manner very disparaging to the scenes of common life to which we must return.

The only peculiar youth among birds which is striking to the mind, is that of the Cuckoo, and this seems so unnatural, that there is not an urchin, country bred, who has not seen it without feelings of pity and curiosity. It is unnecessary for me to repeat here the unceremonious manner in which the Cuckoo intrudes her egg into the nests of other small insectivorous birds, usually choosing the Titlark for that purpose, nor how equally unceremoniously the young intruder shoulders out the real owners, and takes solitary possession. I suppose, upon the instinct of self-preservation well known, two poor little birds, such as Titlarks, must work hard even to maintain him, and *a fortiori*, it would be impossible to support the legitimate brood with such an addition. All this has been often told, and is well known, and many attempts have been made to detain this undomestic gentleman through a winter, but with ill-success.

The youth of our common birds is a pleasing study, and ever before us; let us learn from it the path of domestic and parental duty, and see, as in a glass, our own reciprocal obligations thus figured to us, what our affection as parents should be, and what as children we owe to those parents, who have wrought, and toiled, and striven for our support, watched us whilst we slept, and felt a joy not to be told, when they perceived from day to day our progress towards maturity. Let us never fail to profit by the lesson, for all these things are "for our examples."

Pembroke Square, Kensington, June 10th., 1856.

A THIRD MEDLEY.

BY W.

"Rudis indigestaque moles."

DURING the months of November and December, I, on several occasions, heard the song of the Sky Lark, (*Alauda arvensis*.)

On the 12th. of May, notwithstanding the cold and backward state of the season, the Corn Crake (*Crex pratensis*) was heard in the parks around Duff House.

About the middle of June, the Hoopoe (*Upupa epops*) was seen near the same place.

About the same time a specimen of the Honey Buzzard (*Pernis apivorus*) was shot by Mr. Watt, farmer, Stoneyley, on that farm. It measured four feet across the wings, and about twenty-two inches in length. The cere was almost of the same colour as the bill. It was very poor, so much so, that Mr. Lemon, bird-stuffer, thinks it must have been affected with disease.

To conclude my observations on the feathered tribe, I shall add that a pin was found in a duck's egg by one of the printers in the Banffshire Journal Office, some short time ago! How did it get there? A gentleman in Banff told me, when conversing with him on the subject, that he has himself put a horse-hair into an egg, so as to defy detection, merely by pricking a hole in the end of the egg with a fine needle, and inserting the hair.

On May 27th., during a rather severe gale of wind, a good specimen of the Lesser-Forked Beard (*Raniceps trifurcatus*) was cast ashore at Macduff, and kindly brought me by a boy.

On June 7th., Mr. Andrew Wilson hooked a specimen of the Common Tope, (*Galeus vulgaris*.) It measured four feet ten inches in length, and one foot seven inches and three-quarters in girth. When opened, there were only a few small stones in its stomach.

On June 9th., Mr. Andrew Paterson brought ashore a small specimen of the Lamprey, (*Pteromyzon marinus*),—"The Ramper or Lamper Eel." It was brought into the boat sticking on a large cod-fish.

On June 14th., during one of my fishing excursions among the stones and sea-weed at low water, at the back of the harbour of Macduff, I obtained a very small specimen of Montagu's Sucking-Fish, (*Liparis Montagu*.) It was doubled up on the stone when I turned it up. It was not over a quarter of an inch in length, and was of a very dark orange colour. Its eyes were of a bright golden colour, with a blue line between them. A similar blue line reached from each eye to the upper lip, and also a little way behind the eyes towards the gill-covers. When put into

a phial of water, it swam in a very lively way, and stuck every now and then to the side of it.

A good many months ago, I got from the crevice of a stone taken from deep water, a fine living specimen of *Arca hetragina*.

Anomia patelliformis appears to be more common in the Frith than was supposed. I have got a good many specimens. *Thracia phascolina*, *Tellina crassa*, *Venus cassina*, *Cardium norvegicum*, and *Pentunculus glycimeris*, have all been got—one, two, or more specimens of each. But more of this hereafter, if all is well.

My last capture in entomology last season was a fine male of the Vapourer Moth, (*Orgyia antiqua*.)

I have also seen a specimen of the Death's Head Sphinx, (*Acherontia Atropos*), got by Mr. Lemon, between Boyndie and Banff.

As to our Zoophytes, in a short time I hope to be able to give a pretty fair list; meanwhile be it known that I have got one specimen of *Caryophyllea Smithii*, many of *Cellipora cervicornis*, and, I am inclined to think, *Cellipora lævis*. Many of *Cellipora Skenii*, *Plumularia Catherina*, *Plumularia myriophyllum*, *Sertularia cupressina*, *Retepera Beaniana*, *Thuria articulata*, have also been found in greater or less abundance.

Macduff, Banff, June 17th., 1856.

BIRD-RETREATING.

BY G. R. TWINN, ESQ.

How much a matter of regret it is that as civilization and industry take possession of any locality, and render it a busy hive of men, we cannot secure to it any great abundance of Nature's lavish gifts, for the enjoyment and contemplation of the teeming population.

In harmony with the law of compensation, I find that our gain in one method is met by loss in another; and the natural and peculiar features of the advantage are not of that pure, refining, God-displaying character, (though far be it from me to disparage man's glorious doings,) that so pre-eminently distinguish Nature's works. The close environment of a town, its noisy hum of industrious thousands, its rattling wheels and engines, its engrossment of every spare acre, its sacrifice of land, and tree, and hedge, from the open field or wood, to become the narrow, house-confronting street, are all enemies to him who would retain Nature around in all her charms, for general benefit.

I resided for many years near to an old city of weavers, a quiet, dear, ancestral spot; but my ornithological notices there were of occasional House-

Sparrows; a pair of Jackdaws inhabiting the tower of one of the churches; frequent flights of Rooks, careering round the cathedral spire; the spring migration of Gulls, repairing to Scoulton for breeding; and a Song-Thrush making melody in a central garden of the city. But when you rambled even a short quarter of a mile beyond the city walls, you found an abundance of songsters. Within this distance I knew a shrubbery and road, where the Nightingale paid a yearly visit.

In 1851, I heard one of these pleasing night warblers on the eve of the opening day of the Great Exhibition; also on many successive nights; but a youngster fired his gun in the dusky hour "for fun," but alas! to frighten the Nightingale away, and the nest commenced (supposed to belong to this bird) was necessarily lost. I never personally met with an instance of its nesting in Norfolk, though informed it has done so, and I fully believe it; not on the authority of the case just mentioned, but because I possess a specimen of its eggs secured (for aught I know to the contrary) in that county. I am of opinion that the Nightingale is far from an unsocial bird; though we might thoughtlessly be led to suppose, from its nocturnal habits, that it was; for it would not be difficult to base on its retirement many qualities conjecturally. I do not state it to be a tame, household bird, but that it is a creature less fearful (in its wild state of liberty) of man than many. The Rev. F. O. Morris, in his "British Birds," says, "In its habits it is not shy:" my own observations convince me this is true.

When I was a boy at school, in a rural village of Essex, not far from the metropolis, I remember how great was my pleasure in making my first acquaintance with this bird. There were very large shrubberies and plantations attached to the Hall, and the summer visitants were many. The Gold-crested Wren, the Redstart, the Cuckoo, Magpie, and Wood Pigeon, with many of the common birds, furnished me with my first specimens in Oology. In a circular flower-bed, about four yards distance from the dining room window, grew a small variegated holly, and the top of this dwarf tree was the favourite haunt of a Nightingale. Night after night we heard it, and lay awake, with as intense an enthusiasm to listen to its commencing its song, and to gaze on the sweet bird in the moonlight, as if the morrow were the herald of our vacation. In that bush it nested, not three feet from the ground; and I obtained my first sight of a Nightingale's egg. Alas! for our speedy disappointment and loss! The drawing-master was accustomed to shoot birds, to obtain their skins for natural copies for us, in pursuing our studies with him. One May morn he robbed us of our Nightingale, though unintentionally, for firing into a thick clump of hazels, he shot it, as well as a Linnet. The callow young perished. No mate was retaken, nor were any proofs given (as far as my school-boy

leisure allowed me observations) of the female endeavouring to discharge her maternal duties after the loss.

For nearly two years I have made occasional notices of the feathered race, in connexion with the town of Birmingham, and I find my belief confirmed, that active, busy scenes, "where men do congregate," are direct means of driving far inland, and to remote habitats, many of our birds. There is scarcely any other than the hardy, happy House-Sparrow in our streets. (A few captive Larks and Thrushes pipe languidly at occasional windows.) I have a note of one Robin singing in the burial-ground of St. Philip's, in the centre of our town, and I think this closes my brief catalogue. But when I travel two or three miles beyond the factory smoke, amid the lanes and fields, even there the chorus of birds is small and weak, when contrasted with what I had been used to hear in an agricultural county. Last year we had in our garden a Robin nesting, and rearing its young. On the previous year the Spotted Flycatcher had built, and specimens of its eggs were obtained, yet last year it was absent, nor at present has it visited us.* A stray Chaffinch lingered with us about a fortnight, and then disappeared. What is the cause of this retreat? There is no lack of shrubs and trees; we have fine elms and chesnuts, and a large extent of ground. Why do they quit us? It is to be explained on no other ground than that, as populations and their dwellings increase, so consequent noise and activity render a hundred checks to deter the feathered tribes from retaining their old haunts. Too true, in many instances there is no allurement left them, and they must retreat, but this retreat is far away, and illustrates the cause of locality distinguishing more of our song birds than really, I think, it otherwise would.

I was enquiring of a gentleman early this spring what made our singing visitants so scarce, and his reply was, "We won't let them come near us, we drive them off; we give them chimneys to perch on, instead of trees; and by so doing, you people in town so frighten the little things, that we in the country have but very few of them—they keep far away."

In my strolls this year I have heard the Robin, Blackbird, Thrush, Lesser Whitethroat, Wryneck, Skylark, and Chaffinch, and during the last week the Cuckoo has raised his bi-note cry.

I trust my remarks may not be thought quite useless, as I believe there are very many agencies at work beside the one I have advanced to diminish our number of British Birds. I wish not to lower man, for

"I love not man the less, but Nature more."

I wish to do no more than direct attention to the fact that there is a great retreat and withdrawal going on of birds, from the immediate vicinity

* Is not this accounted for in the same sentence?—F. O. MORRIS.

of our very large and busy manufacturing towns. I shall be glad to find either a confirmation or modification of my statements in future numbers of "The Naturalist," from various correspondents.

The Elms, Moseley Road, Birmingham, May 28th., 1856.

INJURIOUS INSECTS.—No. VI.

APHIS; APHIDES, OR PLANT-LICE.

BY J. MC'INTOSH, ESQ.

(Continued from page 31.)

"The insect pest, powerful though small,
Blighting at once the green leaf and the grain."

GRAHAM.

THE Aphides, or Plant-Lice belong to the seventh order, *Hemiptera*. These minute but destructive insects, which compose this numerous genus are exceedingly annoying and destructive to the produce of the cultivator of the soil, infesting almost every plant he cultivates as food, and many of our wild ones, as well as our trees, stopping their growth by consuming their juices. They are a most singular race of insects, living in large societies, being winged and apterous. In spring they are viviparous, producing their young alive at the rate of twenty-five or more a day. In the autumn they are oviparous, which appear destined to perpetuate the species, as the eggs live through the winter, while the individuals perish. Nor is this all, for by a surprising deviation from the common laws of Nature, it appears from the writings of Bonnet, Reaumur, Latreille, Lyonnet, De Geer, Linné, and others, that one impregnation of the female is sufficient for many successive generations, without the further assistance of the male. Bonnet, who appears to have studied these insects with more attention than any other writer, asserts that he has witnessed the birth of nine generations in three months from one impregnation; and Reaumur has also proved that in five generations one Aphis may be the parent of the astounding number of five thousand nine hundred and four millions, nine hundred thousand descendants, and it is supposed that in one year there may be twenty generations.

"This astonishing fecundity exceeds that of any other known animal, and we cannot wonder that a creature so prolific should be proportionably injurious. Some species are more so than others. Those that attack wheat, oats, and barley, of which there are more kinds than one, seldom multiply so fast as to be very noxious to those plants; whilst those which attack pulse, spread so rapidly, and take such entire possession, that the crop is greatly injured, and sometimes destroyed by them. This was the case with

respect to the peas in the year 1810, when the produce was not much more than the seed sown, and many farmers turned their swine into the pea-fields, not thinking them worth harvesting. This was universal throughout the kingdom." (Kirby and Spence, vol. i., p. 177.)

Next to the locust, plant-lice are the greatest enemies of the vegetable world, and, like them, are at times so numerous as to darken the air. "In the year 1785, the people of the village of Selborne, in Hampshire, were surprised by an abundance of Aphides, which alighted there. Persons who walked the streets were covered with them, and they settled in such numbers on the hedges and in the gardens, as to blacken every leaf; beds of onions were quite covered with them in six days. They were observed in great clouds about Farnham at the same time, and all along the vale from Farnham to Alton." (G. White, p. 268, ed. 1788.) And Mr. Kirby says that he once witnessed a great swarm of Aphides, when travelling late in the year, in the Isle of Ely; the air was so full of them, that they were constantly flying into his eyes and nostrils, and his clothes were covered with them; and in 1814, they were so abundant for a few days in the vicinity of Ipswich, as to be noticed by the most indifferent observers with surprise. Upon this migration the pea, bean, and hop crops every year entirely depend. The hop-grower is particularly at the mercy of *Aphis humuli*, or what he calls the fly. They are the barometer that indicates the fall and the rise of his wealth.

In the stoves and greenhouses of the gardener the Aphides often reign triumphant, and if they were not discovered, and destroyed on their first appearance, every plant would soon be contaminated by them, and beauty be converted into deformity. Some of the genus form convenient and sheltered habitations for themselves, by causing portions of the leaves of peach, apricot, nectarine trees, etc., to rise into hollow red convexities; in these the Aphides reside, and with their rostrum pumping out the sap, in a short time occasion them to curl up, and thus deform the trees, and injure the produce. And who has not observed what is commonly called *honey-dew*, upon the maple, beech, larch, elm, lime, willow, nut, and other trees? this is the secretion of the Aphides, whose excrement has the privilege of emulating sugar and honey in sweetness and purity.

"In the quality of the excrement," says Mr. Curtis, in the sixth volume of the Linn. Trans., "voided by these insects, there is something very extraordinary. Were a person accidentally to take up a book in which it was gravely asserted that in some countries there were animals who voided sugar in a liquid state, he would lay it down, and regard it as a fabulous tale, and yet such is literally the truth. The superior size of the *Aphis salicis* will enable the most common observer to satisfy himself on this head. On looking stedfastly for a few minutes on a group of these insects,

while feeding on the bark of the willow, one perceives a few of them to elevate their bodies, and a transparent substance evidently drops from them. At first I was not aware that the substance thus dropping from these animals was their excrement, but was convinced of it afterwards, for on a more accurate examination, I found it to proceed from the extremity of the abdomen, as is usual in other insects. On placing a piece of writing paper under a mass of these insects, it soon became thickly spotted; holding it a longer time, the spots united, from the addition of others, and the whole surface assumed a glossy appearance. I tasted this substance, and found it as sweet as sugar; and were it not for the number of ants, wasps, and flies, which devour it as quickly as it is produced, it might, no doubt, be collected in considerable quantities, and if subjected to the process used with other saccharine juices, might be converted into the choicest sugar or sugar-candy."

Such is Mr. Curtis's account of honey-dew, with which we agree, yet we find many well-informed people entertain a contrary opinion. Pliny could not account for this substance, and hesitated to give it a name, and even declares himself at a loss whether to call it the sweat of the heavens, the saliva of the stars, or a liquid produced by the purgation of the air. We believe that the Abbé Boissier de Sauvages, of Montpellier, was the first to describe it as the excrement of Aphides. Duhamel observed it dripping in such quantities from some willows by a river-side, that children were catching it as it fell. He also observes in "*Physique des Arbors*," that it flowed from nut trees in equal quantities, a circumstance quite common in our nut trees, from the *Aphis coryli*; but Duhamel does not consider it the excrement of Aphides. Dr. Darwin, in "*Phytologia*," says, "If it is voided by the Aphis, it is owing to their penetrating the sap-vessels, and drinking more of it than they can digest."

That the Aphides exist not by consuming the foliage of plants, upon which they are found, but receive their nourishment by sucking out the juices of the plants, is a fact well known to every observer of Nature. Some, however, assert that this is the case only with such as are produced by viviparous propagation, and that those produced from eggs may eat some part of the foliage in spring, while they are in the larvæ state, if they ever can truly be said to be in such a state of their existence. Upon this subject Dr. Darwin says, that "the Aphides produced from eggs early in the spring may have a larva state, and that during that state they may feed on the young leaves of peaches, apricots, nectarines, plums, and cherries, and thus occasion them to curl and die; that those which are not from the egg, only puncture the larger vessels which receive the vegetable sap-juice from the roots; this they suck up, and live on to such an extent, that it passes through them almost unchanged, falling on the leaves and

ground beneath, and produces what is called the honey-dew, but that this happens only for a short time, as a week or two about Midsummer, during the production of the new buds, and that the black, powdery material on the upper surface of the leaves is the excrement of the Aphides, like the black, bitter powder in the nut-shell, which is the excrement of the *Curculio nucum*."

Others again consider it an exudation from the plant itself. On this subject says Mr. Curtis, "If it exuded from the plant, it would appear on all the leaves generally and uniformly; whereas its appearance is extremely irregular, some having none of it, and others being covered with it but partially." Honey-dew never exists, as has already been shewn, but where there are Aphides, and the black substance which Dr. Darwin and others consider as the excrement of the Aphides, is the actual excrement (in the shape of honey-dew) of these insects, only dried by the powerful effects of the sun and air, giving the surface of the leaves or bark, or whatever it has fallen upon, a sooty appearance. It looks like, and is often mistaken for, a kind of black mildew.

December, 1855.

(To be continued.)

ON THE WEATHER.

THERE is a subject which is ever in men's mouths, but seldom flows from their pens, but which, it appears to me, might be made the vehicle of much amusive instruction, and shew us results which, perhaps, we had no idea of. Men's memories are but fallacious guides, and although light and darkness, heat and cold, dry and wet, dullness and sunshine are perpetually before us, even at a week's end, unless we keep a strict account, we can no more tell what *weather* we have had, than we can remember things that occurred a twelvemonth since. I was drawn into this train of thought by seeing Mr. Clapham's letter upon the inclination of trees, and which I thought I could account for by atmospheric causes, and this led me to look back many years through a series of old journals, which I have kept, in spite of the ridicule of my friends and relatives, ever since 1838, and I must say that I do not regret having done so; for not only have I found them sometimes eminently useful, but of pleasant reference to days gone by, chequered as they must be by the tinges of joy and sorrow.*

I am aware that a record of thoughts and feelings, as well as events, might not always be desirable to place at the mercy of the multitude, but what I have sought to do is this, to set down as notes only what sort

* I quite agree with these observations, both as to our speedy forgetfulness of the past state of the weather without a "time table" of it, and also as to the usefulness of such a record, both in the way indicated, and in other ways also. I kept a diary of the weather for some years myself.—F. O. MORRIS.

of day it was, which way the wind blew, and what were my occupations, and where I was, with any remarkable occurrence that might have taken place. Were I to begin again, I should probably pursue a different* system; and therefore upon this experience I venture to suggest that every lover of Nature should, both for his own sake and that of others, keep a journal of the weather. If he possess a barometer, thermometer, and rain-gauge, let columns be assigned to each of these, and if he have the scientific means of ascertaining the altitude of his position by the sea-level, let him do so; but it is within the reach of every one to set down whether it be fine or wet, hot or cold, or temperate, and in what quarter the wind, and whether it changes during the day or night, with a note of the hour at which the moon enters another quarter. Now this seems to be very simple, and yet how few do such a thing! The matter might be managed in this way.—Let there be, we will say, six columns, thus—

Therm.	Barom.	Wind.	Wind Change.	Weather Generally.	Moon's Age.

The pages with these headings having a margin in which, opposite the divisions, the day of the week, of the month, and year, must be set down, you would have it somewhat in this manner:—

1856.	Therm.	Barom.	Wind.	Wind Change.	Weather.	Moon's Age.
June, Sunday 1st.	65-68	Rising 29-30.	W.	South-west at 1 p.m.	Dull, wet, and cold, but became fine.	In the 6th. day of the last quarter.
Mond. 2nd.	70—	Do.	SW.	Very warm and fine.	New Moon 11-39 p.m.

I merely suggest the above plan, and it is obvious that much greater space must be allowed; for the day I give for example was perhaps the most singular we have had of late, being so cold as to set *one*-coated gentry shivering, and myself among the number, in the morning, but becoming quite hot in the afternoon, although the thermometer in-doors varied only *three* degrees, and the weather changing entirely in the night, and the morning being ushered in with quite a balmy air. I heartily wish that I had pursued this plan, suggested by my experience; but as it is, my journals are kept mostly in short-hand, with such signs as I understand, assisted by memory; whereas such a plan as I now propose would prove, I hope, distributively useful; and if a digest of each month were added, it would enable correspondents of your most valuable periodical to compare notes in its columns, and thus render it still more complete even than it now is.

O. S. ROUND.

Pembroke Square, Kensington, June 10th., 1856.

* The same?—F. O. MORRIS.

THE HOUSE SWALLOW, (*HIRUNDO RUSTICA*.)

TO THE EDITOR OF "THE NATURALIST."

FACTS in Natural History are of so much more value than theories, that I communicate the following statement founded on my own personal observation; and as a curious contrast is presented in the two instances, I shall leave them to the reflection of your numerous readers.

A House Swallow, or Chimney Swallow, built last year, in May, over the entrance inside the porch of my house; when she had about half-finished her nest she stopped from working at it for three days; I suppose to give such foundation time to be dry, and get firmness to support the superstructure, for she then re-commenced and finished her nest; she laid, and accomplished her sitting, notwithstanding the continued disturbance of the opening and shutting of the door, at which she always flew off, and at night, when it was dark outside, and light inside the entrance hall, she flew into the house, and I caught her and put her near the nest, but I had little hope that she would succeed in hatching, which, however, she did, and reared her young ones, which fled from the nest on July 19th.

On the 1st. of August, to my surprise, I found (I have no doubt) the same pair of Swallows building a fresh nest close by the former one, under the same difficulties, with the same disturbance, and likewise with the same success; for in my note-book, under the date of September 11th., I write, "The Swallow has braved all difficulties, hatched and reared her second brood, which took flight from the nest to-day." This somewhat confirmed me in a notion I entertained that few or no birds re-occupy an old nest; but mark how dangerous it is to generalize, as the following contrast will prove. This spring, 1856, a Thrush built her nest in a laurel bush, close to my hall door; she hatched, and the young ones left the nest on the 9th. of May, and she is now, June 2nd., sitting again on the same nest; a thing that never came under my observation before, although I have been an observer of birds for forty years, except in the instance of Starlings, and also domestic Pigeons, who usually have two nests, which they alternately make use of, the old bird often sitting on fresh eggs before the first brood has flown.* Semble, as we lawyers say, do not many of our birds have successive broods of young ones even when not interfered with. Can you or your correspondents enumerate instances coming under safe observation, I say safe, for none but the experienced can have an idea how easy it is to be misled in matters of this kind.*

R. G. TEMPLE.

The Lache, Chester, June 2nd., 1856.

* Many birds repair and add to their old nests from year to year. I have also known a Greenfinch build on an old nest of the Spotted Flycatcher.—F. O. MORRIS.

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 161.)

- Vespertilio subflavus*, *F. Cuv. Temm. Schinz.*
Vespertilio Creeks, *F. Cuv. Temm. Schinz.*
Vespertilio crassus, *F. Cuv. Temm. Schinz.*
Vespertilio subulatus, *Godman. Rich. Schinz.* *V. lucifugus*, *Murtrie. V. domesticus*, *Green.*
Vespertilio lepidus, *Gerv. Schinz.*
Vespertilio Dutertrei, *Schinz.*
Vespertilio nasutus, *Shaw. Tem. Schinz. V. maximus*, *Geoff.*
Vespertilio nigricans, *Prinz. Max. Temm. Schinz.*
Vespertilio Maugei, *Desm. Geoff. Wag. Schinz.*
Vespertilio brasiliensis, *Spix. Schinz.*
Vespertilio parvulus, *Temm. Schinz.*
Vespertilio lævis, *Schinz. V. lævis*, *Isid Geoff. Fisch. Temm.*
Vespertilio polythrix, *Isid. Geoff. Tem. Fisch. Schinz.*
Vespertilio villosissimus, *Geoff. Schinz.*
Vespertilio chiloensis, *Waterh. Schinz.*
Vespertilio pulverulentus, *Tem. Schinz.*
Vespertilio lacteus, *Temm. Schinz.*
Vespertilio æneobarbus, *Temm. Schinz.*
Vespertilio barbatus, *Schinz.*
Vespertilio albescens, *Geoff. Temm. Schinz.*
Vespertilio ruber, *D'Orbigny. Schinz.*
Vespertilio innoxius, *Schinz.*
Vespertilio monticola, *Bach. Wieg. Schinz.*
Vespertilio virginianus, *Bach. Schinz.*
Vespertilio Leibii, *Bach. Schinz.*
Vespertilio Californianus, *Bach. Schinz.*
Vespertilio morio, *Schinz. Scotophilus morio*, *Gray. Wieg.*
Vespertilio Gouldii, *Schinz. Scotophilus Gouldii*, *Gray.*
- Vespertilio australis*, *Schinz. Scotophilus australis*, *Gray.*
Vespertilio pumilus, *Schinz. Scotophilus pumilus*, *Gray.*
Vespertilio nigrescens, *Schinz. Mosia nigrescens*, *Gray.*
 NYCTICEJUS.
Nycticejus Nigrita, *Temm. Schinz. Vespertilio Nigrita*, *Schreb. Geoff. Desm. Temm.*
Nycticejus borbonicus, *Temm. Geoff. Schinz. Vespertilio burbonicus*, *Fisch.*
Nycticejus leucogaster, *Rüpp. Temm. Schinz.*
Nycticejus Heathii, *Hors. Tem. Schinz.*
Nycticejus Temminckii, *Schinz. Vespertilio Temminckii*, *Horsf. Fisch. V. versicolor*, *Temm.*
Nycticejus Belangerii, *Temm. Schinz. Vespertilio Belangerii*, *Belan.*
Nycticejus noctulinus, *Temm. Schinz. Vespertilio noctulinus*, *Geoff. Temm.*
Nycticejus pruinusosus, *Temm. Fisch. Schinz. Vespertilio pruinusosus*, *Godm. Rich.*
Nycticejus lasiurus, *Schinz. Vespertilio lasiurus*, *Linn. Schreb. Geoff. Temm. Fisch. V. Blosssevilli*, *Less. V. bonariensis*, *Less.*
Nycticejus novæboracensis, *Temm. Fisch. Schinz. Vespertilio novæboracensis*, *Linn.*
Nycticejus varius, *Schinz.*
Nycticejus macrotis, *Pöpp. Schinz.*
Nycticejus humeralis, *Schinz.*
Nycticejus tessellatus, *Desm. Schinz.*
 EMBALLONURA.
Emballonura monticola, *Temm. Schinz.*
Emballonura naso, *Schinz. E. saxatilis*, *Temm. Vespertilio naso*, *Prinz Max. Proboscidea saxatilis*, *Spix.*

Temm.

Emballonura canina, Temm. Schinz.

Vespertilio caninus, Prinz Max.

Emballonura calcarata, Schinz. Vespertilio calcaratus, Prinz Max. V. Maximiliani, Fisch. Temm.

UROCRYPTUS.

Urocryptus bilineatus, Temm. Schinz.

DICLIDURUS.

Diclidurus albus, Prinz Max. Schinz.

MORMOPS.

Mormops Blainvillei, Leach. Schinz.

CHILONYCTERIS.

Chilonycteris Mc'Leayii, Gray. Schinz.

Chilonycteris cinnamomeus, Schinz.

Lobostoma cinnamomeum, Gund.

Chilonycteris quadridens, Schinz. Lobostoma quadridens, Gund.

Chilonycteris gymnotus, Natt. Schinz.

Chilonycteris personata, Wag. Schinz.

Chilonycteris rubiginosa, Natt. Schinz.

Chilonycteris fuliginosa, Gray. Schinz.

FURIA.

Furia horrens, F. Cuv. Temm. Schinz.

NOCTILIO.

Noctilio dorsatus, Prinz Max. Schinz.

N. cristatus, Schinz. N. Americanus,

Fisch. N. albiventer, Spix. Vespertilio leporinus, Linn. Schreb.

Noctilio unicolor, Prinz Max. Schinz.

N. rufus, Spix.

Noctilio ruber, Schinz. Vespertilio ruber, Geoff. Desm.

Noctilio senex, Schinz. Centurio senex, Gray.

TAPHOZOUS.

Taphozous nudiventer, Schinz. T. nudiventris, Rüpp. Temm.

Taphozous perforatus, Geoff. Temm. Rüpp. Schinz.

(To be continued.)

Miscellaneous Notices.

Peregrine Falcon, (Falco Peregrinus.)—For some time past, and more particularly of a late, a Peregrine Falcon has infested the woods about Carnaby, Boynton, and Brackendale, where it has done considerable injury by killing rabbits, hares, one or more pheasants, and many other birds. It was shot early on Saturday morning last, in Brackendale wood, by Mr. Charles Thompson, gamekeeper to T. Prickett, Esq. This is a handsome, full-grown, and beautifully-plumaged bird, weighing two pounds within half an ounce.—*Yorkshire Gazette*, May 17th., 1856.

TO THE EDITOR OF "THE NATURALIST."

Peregrine Falcon, (Falco Peregrinus.)—The reason I have contributed these few lines to your most interesting journal is to state a fact about the Peregrine Falcon, which I do not think is generally known. Many authors state that this bird is so particular in its feeding, that it will strike down several birds previous to fixing on its prey, and that it never returns to its prey after once feeding on it. However the following circumstance will prove the contrary:—A fine specimen of the Peregrine Falcon, a two-year-old female, was captured on the 17th. of March, 1854, under the following circumstances, at Glenogle, near Loch Earn Head, Perthshire:—Mr. Mc. Nab, the keeper, was taking his rounds on the hills

with a few traps, when he discovered a fresh-killed Red Grouse, with a piece taken out of the breast. He immediately set one of the traps, and on returning next day, found the Falcon caught by the leg. He brought it into Stirling, where it was stuffed by Mr. Allan, of that town, in whose collection it still remains.—H. W. F.

Wood Warbler, (*Sylvia sylvicola*.)—I killed, on the 29th. April, a very good specimen of the Wood Warbler. I saw many more amongst the tall beech and ash trees in a shrubbery, belonging to — Newton, Esq., in the parish of Petminster, near this town.—J. MELHUISE, Taunton, May 1st., 1856.

Grasshopper Warbler.—I also killed, on the 22nd. of last month, the Grasshopper Warbler on Hill Farm, (property of my own near Tiverton, Devon.)—Idem.

Bittern.—Though this winter has not been severe with us, I saw no less than seven Bitterns, and all killed within one month near this town.—Idem.

Occurrence of the Dotterel, (*Charadrius morinellus*.) in *Cambridgeshire*.—An unusually fine marked female specimen was shot at Hardwicke, April 24th., 1856. A pair have since been shot near Ely.—S. P. SAVILL, 13, Regent Street, Cambridge, May, 1856.

Common Crossbill and *Little Owl*.—I have at this present time over thirty of the Common Crossbills in the flesh; shot in the neighbourhood of Maidstone, Kent, and sent to me by Mr. Baker, Chemist, of Maidstone. It is unusually late for them. Possibly there may be some news of their breeding here this year. Mr. B. has also a fine Little Owl, (*Strix passerina*.) alive, taken in his neighbourhood.—JAMES GARDNER, 52, High Holborn, London, May 21st., 1856.

The Fieldfare.—In confirmation of Mr. Jackson's remarks in the June number of "The Naturalist," on the subject of the scarcity of the Fieldfare during the last winter, I remarked on Monday, the 5th. of May, a hawthorn hedge, in the parish of Thorsway, Lincolnshire, covered with haws; the green leaves just appearing. Though the Fieldfare is comparatively more scarce in our neighbourhood, (probably because the hedges are so closely trimmed as to prevent the thorn bearing fruit,) still sufficient numbers generally visit us to consume all the berries that are lucky enough to escape the knife.—R. P. ALINGTON, Swinhope Rectory, Lincolnshire, June 12th., 1856.

On the 10th. of January in the present year, I shot a Dipper by the stream here, about half-a-mile below the Rectory. It is the first I have

ever heard of in the East Riding. I thought it was a Blackbird when it first got up, as it flew from the brook towards a field.—F. O. MORRIS, Nunburnholme Rectory, June 2nd., 1856.

On the 30th. of May there was a small Bat flying in the garden of the Rectory in broad sunlight. It was coursing round the trees, evidently hawking for insects, and continued for a short time.—F. O. MORRIS.

In a box fixed on a post, near the gardens at Thorpe Hall, near Bridlington, letters and newspapers are deposited through a slit, for the greater convenience of the foot messenger as he passes each way daily between Bridlington, the post town, and the receiving house at Thwing. The lid is secured by a lock and key, and although the box is opened four times every day in the week except Sunday, yet a pair of these tiny pert little birds, provincially called Billy-biters, (Blue Titmouse,) have made the slit a means of ingress and egress, and actually built a nest within, in which the female has already begun to lay her eggs.—*Yorkshire Gazette*, May 17th., 1856.

Capture of Carabus intricatus in Devonshire.—A fine specimen of that extremely rare beetle, *Carabus intricatus*, was taken on the 18th. of the present month, in the neighbourhood of Plymouth, by Mrs. Hayward, of Devonport. It was kept alive for twenty-four hours, and has since been beautifully mounted on cardboard.—JOHN GATCOMBE, Wyndham Place, Plymouth, June 23rd., 1856.

Reviews.

The Natural History of Ireland, in Four Volumes.—Vol. IV.—*Mammalia, Reptiles, and Fishes; also Invertebrata.* By the late WILLIAM THOMPSON, Esq., President of the Natural History and Philosophical Society of Belfast; Corresponding Member of the Natural History Society of Boston, U.S.; of the Academy of Natural Sciences, Philadelphia, etc. London: H. G. BORN, York Street, Covent Garden. 1856.

To those who are acquainted with my "History of British Birds," it will be unnecessary to state how high a value I have repeatedly had occasion to place on the volume of the work on the Ornithology of Ireland, by the same author. To all others let me here say that the whole work from first to last is of the very highest character and use. It is simply impossible for the Natural History of any individual country to be executed in a more thoroughly complete and admirable manner. The only drawback is that the term "late" has to be applied to the name of the gifted and painstaking author.

A highly-finished engraving, as a frontispiece, which appears to have

been taken from a painting by S. H. Maguire, gives us what seems to speak for itself as being a "vera effigies" of the departed "Naturalist." It is but a sad substitute for the loss of the original, but even such a memento is valuable to all who admire the eminence of the deceased.

This fourth volume, which is of an octavo size, contains 516 pages—496 without the index.

A Dictionary of Botanical Terms. By the REV. J. S. HENSLOW, M.A., Professor of Botany in the University of Cambridge. Illustrated by nearly two hundred cuts. London: GROOMBRIDGE AND SONS, Paternoster Row.

So long ago as the year 1837, I indicated my opinion of the usefulness of a rendering into English of scientific words, by giving in "The Naturalist" the derivations of the Latin and Greek names of British Birds; and in my "History of British Birds," since published, I have carried out the same idea, by giving at the head of each article the meaning or derivation of one of each of the generic and specific names adopted for each species.

While such a diversity of languages are spoken by different nations, the absolute necessity of the adoption of some dead language as a medium of intercommunication between scientific persons, must be at once apparent. It is not, however, every one that has received a University or classical education, and to such, a translation into their own tongue of what otherwise must be unintelligible, is a direct benefit—a sort of Royal Road to the knowledge of what they otherwise could not know.

The present work, therefore, will at once be seen to be a useful one, and that it is well done, the name of the Rev. Professor Henslow, so long one of our "Household Words," will be a ready and a perfect guarantee, an "Indisputable Assurance."

The Sea-side Lesson Book; designed to convey to the youthful mind a knowledge of the Nature and Uses of the Common Things of the Sea-Coast. By H. G. ADAMS, Author of the "Young Naturalist's Library," "Favourite Song Birds," "A Story of the Seasons," etc., etc. London: GROOMBRIDGE AND SONS, Paternoster Row. 1856. p.p. 215.

MR. ADAMS is now well known as a writer, and he will lose none of the favourable character he has acquired by the present work. It is a nice companion for young people when sojourning by the sea-side, and they cannot read it without learning much. It is divided into six sections, at the head of each of which is a vignette, indicative of the general nature of its contents; and at the end of the several sections is a series of questions, by which the reader's acquirement of knowledge through its means may be tested. I am glad to have been instrumental in some degree in "bringing out" the capabilities of Mr. Adams.

The Village Lesson Book, for the use of Schools. By MARTIN DOYLE, Author of "Hints to Small Farmers," etc., etc. London: GROOMBRIDGE AND SONS. 1855. Small Duodecimo, p.p. 116.

I HAPPENED to look over this book before noticing its title, and said to myself, "what a nice book to give as a reward to our village school children!" What I said to myself, I now say to every reader of "The Naturalist" who may have a wish to benefit his neighbours' children.

The Book and its Missions. Edited by L. N. R. London: BAGSTER AND SONS. (Specimen Number.)

THIS book having been sent to me for Review in "The Naturalist," I gladly notice it to say that it is a fit and proper sequel to the "Book and its Story," and I know of no work more suitable than it seems in every respect for Sunday reading. No one, I am sure, who peruses it, will have to complain of a "dull day." It is deeply interesting, as well as entertaining, and at the same time thoroughly instructive in the best things. It is, too, wonderfully cheap—the part being only Twopence!

The Natural History Review. July, 1855. Published quarterly, including the Transactions of all the Irish Natural History Societies. With Woodcuts and Lithographic Illustrations. London: S. HIGHLEY, Fleet-Street; Edinburgh: JOHNSTONE & HUNTER; Dublin: HODGES & SMITH. Price 2s. 6d. pp. 124.

THIS is the first part of this useful work that has come to my hands for review as present editor of "The Naturalist," and I am glad to see a suggestion adopted that I had made to its editor previously, namely, that its head-quarters of publication should be in London, instead of in Dublin; the major including the minor. I suggested this solely with a view to the well-doing of the work, and I sincerely trust that such may be the result. There are in the above-mentioned part no fewer than eight reviews of works of more or less value, an obituary of Mr. James R. Garrett, thirteen original communications, five notices of serials, and four accounts of the Proceedings of Societies.

I think it undeniable that a work of this kind was a desideratum, and I as confidently assert that the present one supplies, and well supplies, the want. I cordially wish it every success, and request for it the patronage of every naturalist who can afford the comparatively small sum of half-a-crown quarterly, for so very good "half-a-crown's worth." It is a valuable publication.

The Fly-Fisher's Entomology; with coloured representations of the Natural and Artificial Insect, and a few observations and instructions on Trout and Grayling Fishing. By ALFRED RONALDS. With Twenty Coloured Plates, Fifth Edition, revised, with additions by PISCATOR. London: LONGMAN, BROWN, GREEN, AND LONGMANS. 1856.

THOUGH the present, the fifth edition let it be observed of this work, is not put forth by Mr. Ronalds himself, yet it will be a satisfaction no doubt to all readers of it to learn, as we do from the preface, that the author is still living, and *only* separated from the scenes he describes by the diameter of the globe, namely, that he is in Australia, and the work has had there, moreover, his revision and correction.

Myself a fly-fisher almost from my childhood, and moreover an entomologist from the same date, I feel myself justified in passing a criticism on a work like the present, and though I by no means hold that every artificial fly described therein is risen at by the trout, because they take it for the real species, also described by our author, yet I have no doubt that they will take them each and every one, and justify the assertion that the said work is one of exceeding value to every lover of the gentle art.

The plates are beautifully executed; the whole work is well got up, and there is no one but can learn much from it to the benefit of his fishing basket. The only fault I can find with it is, that many more flies are described than are really necessary, but this every one can easily rectify for himself.

A Natural History of the Animal Kingdom; being a systematic and popular description of the Habits, Structure, and Classification of Animals, arranged according to their organization. By W. S. DALLAS, F.L.S., Member of the Entomological Societies of London and Paris, and Corresponding Member of the Linnæan Society of Lyons. London: HOULSTON AND STONEMAN, 65, Paternoster Row; W. S. ORR AND Co., Amen Corner. 1856.

IN this most valuable work, a compendium of the whole range of Natural History, the author begins with the lowest forms, and ascends, step by step, to those of the highest organizations. It is illustrated by a profusion of well-executed and characteristic woodcuts, one or more on nearly every leaf; the whole volume, which is of octavo size, containing, with the index, 817 pages. It is utterly impossible in the limited space at my disposal, to say what I would wish to say of this exceedingly useful production. I must content myself with the remark that it is altogether of first-rate character, and I have never seen any work approaching to it in excellence, as intended to afford an epitomized and scientific description of the whole of animated Nature. For the sake of finding fault, which seems to be essential to the

character of a critic, I will take exception to the coloured frontispiece and title-page, which are very indifferently executed in almost every point of view.

The Querist.

In "The Naturalist" for this month, June, "Taxus" says, page 129, "Chrysalides are found in greatest abundance at the foot of the alder, willow, oak, elm, and *ash*." Will he kindly inform your readers what chrysalides he finds at the foot of the *ash*?—W. W. COOPER, West Rasen, June 2nd., 1856. (I have scarcely ever found any under the *ash*.—F. O. M.)

MANCHESTER MUSEUM OF NATURAL HISTORY.

RE-PRINTED FROM THE "MANCHESTER EXAMINER AND TIMES."

THE subjoined is inserted at the request of a Correspondent:—

"Sir,—I saw an advertisement in your paper last week, which informed me that the Museum of the Natural History Society, in Peter-Street, would be open every Saturday at threepence each visitor, or twopence each for "parties" of twelve or upwards. I at once concluded there would be a rush of "parties," availing themselves of such a true business-like, two-shillings per-dozen arrangement; and, resolving I would be there to see, not only the wonders of "the best Museum out of London," but also the quiet looks of enjoyment of the numerous visitors, I paid my threepence at the entrance hall, and was glad to learn that my stick would be cared for without my having to pay the tax of one penny, as in the days of yore. This put me in capital humour for enjoying all the wonders around me. Having noticed the stately Giraffe, and given a nod to my ancient friend, Miss Beswick, the Manchester mummy, I entered the geological room, which is free to visitors, and saw that wonderful and unique specimen of sandstone, with footmarks, mentioned by Mr. Hawkins in his recent lectures at the Athenæum, and thence went through all the institution. As I am not about to write a popular descriptive catalogue, (although I hope somebody will do so early—say in the style of the Crystal Palace handbooks,) I can only describe the delight I experienced from all I saw in that extraordinary collection of what is rare, curious, or beautiful, and the bitter regret and disappointment I felt that, instead of hundreds of visitors being present, there were very few. As a lover of Natural History, I am anxious to draw the attention of your readers to the importance and pleasure of its study, and was glad, therefore, to learn from one of the curators, who was present during my visit, that he and others would be in attendance every Saturday afternoon, to afford assistance to all who may desire information on that subject.

If a few naturalists and geologists,—such as our Binneys, Williamsons, and Grindons,—aided by some of the working-men naturalists, would but attend occasionally on Saturdays, and give short addresses or friendly hints explanatory of the objects in the cases around them, a large amount of information might be thus pleasantly conveyed to inquiring minds, and much permanent good effected. But will a willingness to teach produce a desire to be taught? I think it will, and would suggest that steps be forthwith taken by the conductors of Sunday Schools, to induce teachers and elder scholars to attend in “parties;” by the directors of mechanics’ and literary institutes; by the various trades’ unions, benefit societies, temperance societies, and bands of hope; by the principals, foremen, and overlookers in warehouses, mills, and workshops, not only in Manchester, but in the adjacent towns and villages; in short, let every one aid this object as a great educational agent, and soon we shall see our noble Museum crowded by earnest students and lovers of Nature on each recurring Saturday half-holiday. One more suggestion, and I have done. Let those who wish to reward merit, especially in schools and workshops, remember that an expenditure of only five shillings will ensure the admission of thirty persons, and for this small outlay the donor may do some good, and receive the gratitude of many. A word to the wise is sufficient.”

EXCELSIOR.

Obituary.

IT is with sincere regret that we have to record the death of MR. JOHN LEADBEATER, F.R.S., etc., (a man as well known abroad as at home, for his love of science and talented productions,) which sad event took place on the 28th. of May, at his residence, 19, Brewer Street, Golden Square, London, after a low fever, in his 52nd. year. He was very much respected by his numerous patrons and friends. We may add with certainty that in the position in which he was placed in society, no one ever encouraged the collectors of Natural History in all parts of the world, more than himself, and his demise will be much lamented amongst foreigners of this class. The business, which was established by his late father nearly half a century ago, will be carried on as usual, under the management of his eldest son, Mr. Benjamin Leadbeater. His second son, Mr. John Leadbeater, in co-operation with his partner, Mr. Williams, now established in Melbourne, have been, and are now, collecting for the London House, (sole agents,) all the various branches of the Natural History of Australia on a large scale, especially Mammalia, etc., for anatomical examination, in spirits. The representatives of the late Mr. Leadbeater will thus still be the means, by careful researches, of introducing rarities and novelties to science, and prove as useful members of society as he whose loss we now deplore.—*Communicated by a Correspondent.*



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SEPTEMBER, 1856.

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O Lord, how manifold are Thy works! in wisdom hast Thou made them all: the earth is full of Thy riches.—PSALM civ., 24.

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Communications have been received from HENRY F. WOOD, Esq.;—JOHN GATCOMBE, Esq. (two);—MR. GEORGE STOCKLEY;—MR. DAVID MORRIS;—JOHN DUTTON, Esq.;—H. W. FEILDON, Esq., Forty-second Royal Highlanders;—T. SOUTHWELL, Esq.;—S. P. SAVILL, Esq.;—H.

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RARE BIRDS' NESTS.

BY O. S. ROUND, ESQ.

As a general rule, I consider those birds alone truly British which nest with us, for if we consult our experience, we shall find that the period of nidification only can display to us the different habits and dispositions of those beautiful objects of creation, endowed, as they are, with a sublime power of overcoming attraction, and so quickly ranging beyond our sphere of vision; nor can any of us call that our home, which is not bound to us by some natural ties; and although it is true that our summer birds pay us short and somewhat selfish visits, deserting us at the very time when we should be so really glad of their society, and making the gloom of approaching winter more gloomy still, yet they pay us so great a compliment by making this country the scene of their most important duties, that we cannot, and indeed do not, doubt for a moment their claim to a prominent place in our ornithological calendar. Added to this, those birds which visit us in winter only are very few, and many of these few (if that is not an Irishism) are northern natives, and come from countries possessing but little advantage over us in the list of birds. Amongst these two instances of nests came under my own observation. The first was the Grosbeak, (*Coccothraustes*), a comparatively rare bird, although in my taxidermial days I had seven or eight specimens sent to me, and shot one, and saw several wild myself. A pair of these birds built for two years successively, if not longer, and I think produced broods, in a hollow of an old tree at Sillwood Park, Sunnyhill, near Ascot Heath. I did not examine the nest or eggs, as when I chanced to be there the hen bird was on her nest, and we feared to disturb her, lest she might desert it, but I perfectly well remember the circumstance, now perhaps some ten years since, and seeing her head as she sat, and she was seen from day to day by those who resided in the house, to which the tree was very near. I have also seen a stuffed specimen of a young Grosbeak, which was hatched in a garden at Reading, in Berkshire, and which formed part of the collection of British Birds of Mr. John Wheeler, then resident at Wokingham.

The next instance was of the nest and eggs of the Crossbill, (*Loxia curvirostra*), which, when I, was making a collection of nests, was brought to me, and was in my possession until that, along with many others, was unfortunately destroyed by spiders during a winter when they were shut up in a box, and put aside, the melancholy spectacle presenting itself, when I re-opened it, of a misty *plexus* of webs, and each nest containing a small heap of powders—the ashes of my hopes!

These birds are by no means uncommon visitants to the vicinity of the place where the nest was found, namely, in a lane running through the

village of Sunnyhill, on the verge of Bagshot Heath, the extensive fir plantations which are found in that locality, forming, probably, the chief attraction. Unfortunately the nest was taken and brought to me, but I should much have preferred being a witness of the old bird sitting upon it; however I have no reason to doubt the assertion, more particularly as the eggs differed from any that I was familiar with. They were six in number, larger than a Redbreast's, but of somewhat the same colour, although lighter, and more broadly blotched. The shape also was less tapering. The nest was composed of roots, a little wool and moss, and very loosely constructed, and was placed in the head of an old pollard ash, very much in the same manner as the Grosbeaks which I have mentioned. Now Cross-bills are much more common visitants, as they appear in all seasons, but chiefly in deep winter and high summer.

A third instance I remember was of the Great Snipe, (*Scelopax major*), which for two successive years had a nest, with four eggs, in the bog which lies beneath Ascot Heath race-course to the south. An old man, who worked for us, told me of it, and I went with him and examined the eggs, which after-experience taught me to learn the nature and value of, but at the time I was a lover of nature, not a specimen collector, and enjoyed a silent pleasure in the contemplation, without desiring to adopt and preserve the object. The bird was certainly very large, and light coloured, and the eggs much larger than those of the Whole or Common Snipe, many of which breed every summer in these same morasses, and are of a lighter brown.

Lincoln's-Inn-Fields, London, March, 1852.

A FOURTH MEDLEY.

BY W.

BARRED-TAILED GODWIT, (*Limosa rufa*.)—In September, 1851, a pair of these rare birds were shot besides a pond, at a place called Biaks, parish of Gamrie, Banff.

Sky Lark, (*Alauda arvensis*), was heard in full song on 7th. February.

Red-throated Diver, (*Colymbus septentrionalis*).—A specimen of this bird, rather rare in this quarter, was found entangled in the salmon nets near Banff, about the beginning of March. A few years ago, was shot off Maeduff, a good way out at sea, a fine specimen of *Colymbus glacialis*. The Black-throated Diver, (*Colymbus arcticus*), is also occasionally found. The Red and the Black-throated Divers are popularly known by the name of *Loons*.

Corn Crake, (*Crex pratensis*).—On returning, 17th. May, from a party in Banff I was gratified with the voice of this bird. Mr. Edward told me he heard it a few days before.

Swift, (*Cypselus apus*.)—On the same day, May 17th., I saw two pairs of this bird.

To proceed from fowl to fish:—

Double-spotted Goby, (*Gobius Ruthersparrri*.)—On April 22nd. a specimen of this rare fish was brought me.

Fifteen-spined Stickleback, (*Gasterosteus spinachia*.)—About the 11th. of May, a female just at the spawning was brought me. It had but fourteen spines. Much about the same time specimens of the Common Pipe-Fish, (*Syngnathus acus*.) and of the Snake Pipe-Fish, were also got.

Miller's Top-not, (*Rhombus hirtus*.)—A female, full of roe, was caught "in shore" in the nets used by the boys for catching crabs, on May 17th. This is one of our rarest fishes in the Frith.

Leda caudata.—In the month of April I obtained from a mass of sand and zoophytes, a whole specimen of this rare, (at least here) shell. Several valves have been formerly got.

Actinia dianthus and *A. crassicornis*.—On May 17th. a fisherman brought up on his lines a lump of coal, having on it four of the largest *Actinias* I ever saw. They were not less than about ten inches in circumference. There were two of each. One of *A. dianthus* was milk-white, and the other dusky. One of *A. crassicornis* was variegated with red, the other was white, with orange-coloured tentacula. I kept them for some days, and a prettier sight could not be wished for. Can the creatures have any predilection for attaching themselves to coal? or does it favour their growth? From the number on the small piece, and from their very large size, I concluded so.*

I shall conclude my lucubrations at this time by a few words on a paper, styled "Inquiry for the Naturalist." I have observed again and again the same inclination of trees, but not towards the east. In this district, which is in many parts very much exposed to the sea-breeze, the trees all lean towards the south, just because the cold, biting wind comes from the north. This is the reason why the trees spoken of by your correspondent lean towards the east. The hard, killing winds blow off the sea, and nip the tender branches. In proof of this assertion, I shall state what I have observed here. When there are high walls, the trees grow like other decent trees, till they overtop the wall, and then they begin to lean away from the sea-wind. The same thing takes place when they are planted in sheltered hollows. All goes well till they lift their head out of the "trenches," and then whizz goes the sea-breeze into their bonnets, and turns them to the side. When they are planted in clumps, the outside trees are short and stunted, those within are somewhat taller, and so on, always growing

* I cannot think this, as coal cannot well be looked for under the sea.—F. O. MORRIS.

higher, so that the tops at a distance look like an inclined plane. The same thing I have observed in larch and fir trees farther inland. Thus have I proved to my own satisfaction, and I trust to that of my readers, that the growing of the trees, described in "The Naturalist," is owing to the hard wind, although so far inland.

Macduff, Banff, June 11th., 1856.

ON THE SCARCITY OF BIRDS IN CERTAIN DISTRICTS.

BY THOMAS FULLER, ESQ.

PURSUING this subject, I beg leave to remark, in addition to the observations of Mr. Clement Jackson, in "The Naturalist" for this month, certain causes coming under my notice. For a long period of time I have experienced, with great annoyance and vexation, numbers of my friends impressed with the notion that birds are destructive to vegetation, and to fruits particularly, and with such ideas have waged continual war against them. A neighbour, living a short distance from me, said, exultingly, a few days back, that he had shot more than six hundred birds of various kinds about his garden during the last year. Another instance occurred this spring, whilst walking with a friend to a village at some little distance. Passing the house of an acquaintance, we were recognised, and invited to look round the grounds, etc. When near the garden the report of a gun was heard, and presently two youths appeared: they had been shooting birds for preservation of the fruit, and one of them produced from the capacious pocket of his shooting-jacket several specimens of beautiful Thrushes, with lovely spotted breasts and golden eyes. This was in April, at a time of the year when nearly all birds have nests and eggs, and the cock birds, particularly the Blackbird and the Thrush, charm us with their sweet, wild notes. Soon after this I visited a friend in Berkshire, where I expected full enjoyment of the delightful harmony of these lovely little songsters, but had the disappointment to find the same system of destruction prevailing—scarcely a day passed without the gardener announcing the capture of one or more nests, either with eggs or young birds. Blackbirds, Thrushes, Linnets, all were alike victims.

Another element of destruction is also actively developing itself—in the increase of domestic cats, if I may judge from this neighbourhood. We are absolutely overrun with them. It is worthy of remark, these animals, in suburbs and villages, are not to be kept inside of houses as in cities and towns; their nature and habits lead them to roam in the shrubberies and gardens, where they propagate and pursue their feline propensities, destroying or scaring away everything of feathered existence, except a few

fugitive Sparrows, with nests under the roofs of the houses, or places inaccessible to such expert climbers.

These cats are a source of great annoyance to me, seven or eight together are often to be seen on my grass-plot, or scaling the walls, climbing trees, etc. This state of things, I am inclined to think, prevails extensively; for go wherever I will, the creatures appear to be encouraged. In fact, I have to reproach myself for having thoughtlessly countenanced the evil, as you shall hear:—

When entering this house, in the autumn of last year, two cats were observed prowling about, left, no doubt, by the former tenant.' Every endeavour was used to drive them away, but without success; and whilst I was meditating upon the best way of encompassing their destruction, my domestics pleaded for one of them, saying it was only a kitten, and very pretty, and if I would permit them to keep it, great care should be taken to prevent it getting into the garden, and doing mischief. In an evil hour my consent was given, and little pussy was soon at home, purring round the legs of the kitchen table. Winter passed, as winters generally do—doors and windows closed, and pussy comfortably dozing before the fire. The creature grew, and became a great favourite; but as spring approached, with its genial atmosphere, there was no keeping pussy in, and being *un chat*, soon betrayed the roving character of his gender, not only making an addition to the vagabonds already infesting us, but actually attracted *une chatte*, (a stranger that we had never observed before,) with whom he held nightly serenades, of such peculiar and unearthly sounds, as to annoy us greatly. Every night his extermination was resolved, but each morning he contrived, stealthily, to get inside, and with soft velvet paws attract notice to his handsome furry skin, and poor tommy's offence was as often forgiven. But Madame meanwhile kept her footing outside, and presently a litter of kittens appeared in one of the outhouses. Thus was the increase of these vermin clearly demonstrated, and my resolution taken for their complete extermination, and again, I regret to say, diverted. Some of my grandchildren happened then to be staying with me, and unfortunately got acquainted with these kittens before the information of their existence reached me. They have successfully pleaded for two. I now see the consequences of such weakness, and have quite made up my mind what to do *coute qui coute*.

I am the more convinced of this being one cause of the loss we are deploring, from the recollection of how differently we were situated at our former residence. There no cat was tolerated, and having no other house immediately adjoining, we were not annoyed by those belonging to others. The feathered tribe were therefore undisturbed, and meeting every encouragement, visited us in considerable numbers. Blackbirds, Thrushes,

Robins, and others, came close to our house for food, placed daily for them, charming us with their songs and interesting motions. Boys, too, about this neighbourhood are quite as destructive as cats. Every urchin appears trained to the accomplishment of their ruin. Upon a holiday in the spring, the first pursuit is the capture of birds' nests, and you cannot walk in the country, at this season of the year, without meeting the little plunderers with strings of birds' eggs. At other seasons all sorts of missiles are resorted to, and happy is he who can possess himself with an old pistol or musket, to pop at every bird within reach.

No doubt these doings have prevailed for a great length of time, but they have vastly increased during my recollection, and it is reasonable to conclude the same system extends to the neighbourhood of other cities and towns.

We cannot dwell on these reflections without deep regret; yet in the midst of all, it is cheering to think some portions of our Island may yet be free from such wholesale persecutions, and in this feeling I am encouraged to hope from the result of a ramble, on the 19th. instant, in a retired part of Wiltshire, about eighteen miles from this city, where the River Avon flows with more than its usual winding course through a very rural part of the county. The sun was shining gloriously, and the feathered creation in full activity; the Cuckoo's note sounded from every side; water-fowl started from the rushes in the river; Swallows, in rapid motion, skimmed the water, and in quick evolution displayed their white breasts to the sun's rays; Reed-Sparrows incessantly chirping; Blackcaps, with great variety of the Finch tribe, hopping from bush to bush; Blackbirds and Thrushes in full song; the lovely Kingfisher displayed his brilliant plumage with great effect on the glistening sun; whilst Herons at considerable height were flapping their way towards Bowood, the seat of the Marquis of Lansdowne.

The day was magnificent, every tree and shrub in full foliage, all seemed full of life and animation; the May-flies, so well known to anglers, were in myriads upon the water, and fishes rising after them in countless numbers. Making my way through a cluster of alder trees, on an embankment by the side of the river, the water from which having forced its way in several places, forming channels, and rendering the ground very soft, progress became slow and difficult. Close to the bank floated a boat, secured by a chain. Whilst debating with myself upon the advantage of this boat, for avoiding one of these channels, which appeared rather too wide to step over with convenience, and holding on by one of the trees close to the edge of the river in a state of indecision, a remarkably fine Kingfisher, the largest I ever saw, came and pitched upon the edge of the boat, not three feet from where I stood—the sun shining directly upon him, gave

great effect to his brilliant plumage. He was perched with his back towards me, and held a fish crossways in his beak, which he proceeded to beat against the edge of the boat with considerable force, then setting it parallel with his beak, swallowed it.

I could easily have reached him with my walking-stick, but preferred the contemplation of his lovely colours; so, standing still as possible, scarcely venturing to breathe, I continued watching him. He remained for some time dressing his feathers with his long beak, and evidently seemed satisfied with his meal. Presently he hopped round, looking me full in the face. Now, thinks I, he is off to a certainty.—No, there he continued to stand with eyes appearing to meet mine, and affording me the same opportunity of viewing his front as I had before of his back. Whether he saw me or not, he shewed no alarm, and appeared perfectly at ease. Being in high gratification in contemplating his brilliant colours, I was determined to wait his full leisure and watch his movements, when from the soft and slippery condition of the bank, my footing gave way, and, but for the boat, I should certainly have gone into the river. The bird frightened at the movement, flew away, displaying his brilliant colours in the rays of the sun with great effect.

What a pity it is this most beautiful of our British Birds should be getting so scarce—the price given for it by owners of museums and collections is an inducement for its capture, so that they are rarely seen in places much frequented.

I could not help remarking that in the whole course of my day's ramble, I did not see one Magpie. Prejudice and persecution seem to have followed this unfortunate bird even to this retired spot; neither did I see one alive during my sojourn in Berkshire, before mentioned. In one of my walks in that neighbourhood an incident occurred which throws some light on the subject. My way for some time had been through a plantation of considerable extent, my attention fully taken up with everything on the wing, almost every variety of bird came under view except the Magpie, when, upon emerging from the wood, appeared a tree with from thirty to forty dead Magpies dangling from its branches. Country people seem all to unite in the destruction of this gay and lively bird. Game-keepers, in particular, shoot them without mercy, in the belief that they destroy the eggs of Partridges. Whether there is any foundation for it or not, seems doubtful, as many say the depredation is chargeable to stoats and weasels; but even if such an act could be proved, the offence can only exist for a very short period in the spring of the year, and after that time he is employed in works of great service to the farmer, by destroying millions of insects injurious to animals and vegetation. A foolish superstition also prevails respecting the appearance of this unfortunate bird—the

sight of one is said to betoken ill-luck, and so on through a list of misfortunes according as two or three or more are seen together. In this neighbourhood, during the present year, only two Magpies have come under my notice. They had built their nest in a tree, situate in a field near the village of Weston. I used to watch them frequently with much interest before going into Berkshire, and upon returning home lost no time in going to see how they were getting on: to my great disappointment they were gone. Upon inquiry, I was told the birds had been shot, and the nest destroyed. Upon expressing my sorrow for what had been done, the answer was, "Oh! they are nasty unlucky things, and we don't like to see them."

The Magpie was always a great favourite with me, and I look back with regret to the time when his appearance was more frequent. Their habits are sociable, seldom appearing singly. It was very interesting to see them, with their gay feathers of shining black and white, and lively actions, as they flew across one's path in small parties, and pitched at short distances, with pert and jaunty hop and quick movement of their long tails. (Let me hear from Mr. Fuller again.—F. O. MORRIS.)

Bath, June 30th., 1856.

A VISIT TO BRAEMAR IN 1855.

BY W. SUTHERLAND, ESQ.

LEAVING the "granite city," on a bright Monday morning, towards the end of July, (24th.,) 1855, we might have been seen early on the afternoon of the same day, descending from the good old-fashioned stage-coach, in the little less antiquated village of Castleton of Braemar. Thanks for the comparatively rapid transit over a road of fifty-seven miles in this essentially "Hieland" portion of Her Majesty's dominions, to the shade of Watt, so far as the results of his glorious discovery have penetrated these wilds, and last, not least, to the said stage of our forefathers. But although we have thus summarily transported ourselves from one end of the Dee almost to the other, in the space of half a dozen lines, we lay no claim to the possession of the faculty celebrated in Eastern story, which is capable of effecting a similar transit in as many seconds; and seeing that we take too much selfish pleasure in "fighting our battles o'er again," we cannot spare the reader the infliction of a paragraph on what we saw in the course of our journey westward; and so, by way of preface, let him not suppose that immediately on leaving the vicinity of the sea-coast, he is to be ushered into such scenes of rocky sublimity and beauty as characterize the upper course of this river.

First, then, we have a ridge of rather tame but heath-clad hills, rising gradually from the rocky coast, south of the river's mouth; these, if much

given to speculation, you may consider to be the most easterly span of the Grampians; or better still, the continuation in ancient Caledonia of the Dovrefield range—the backbone, as it were, of Scandinavia, which, after a submarine passage over the German Ocean, tired, probably of their aquatic experiences, think proper to shew their noses again on *terra firma* at this point. Almost immediately on the train striking briskly into the Deeside line proper, we begin to catch glimpses of the most pleasant woodland scenery, which now extends over the slopes of the hills we have already referred to, and continues more or less to do so a good way beyond the present terminus of the railway at Banchory, (eighteen miles from Aberdeen.) The most pleasant spots, however, between these two points, are, without doubt, the tastefully laid-out grounds on the estates of Banchory-Devenick and Kingcausie; the former the property of the then A. Thompson, Esq., but now, deservedly, Dr. Thompson; the latter of J. Boswell, Esq., and sheltering one of the most picturesque spots in this neighbourhood, and moreover one of those spots which appear to be selected by Flora, as a safe asylum for her rarest and tiniest children—the Corbie Den, well known to all who cultivate the gentle science in this district. But Banchory itself is possessed of no small share of attraction, in its many neat summer villas, in delightful and salubrious situations, and its sylvan walks of the most inviting description by the banks of the river, which here seem to be very well adapted to the growth of the Holly, (*Ilex aquifolium*,) specimens of which, quite in a state of nature, frequently attain the height and dimensions of goodly-sized trees.

Leaving this sweet spot, we find the scenery assuming more and more of a mountainous description, which indeed increases steadily till we reach the culminating point in the lofty Ben Macdhui, at whose base the stream we are now ascending, there indeed a very little stream, takes its rise. To the north lies the Hill of Fare, botanically celebrated as once the only known locality for *Carex pauciflora* in the shire, (though now ascertained to be of very extensive distribution indeed, in suitable localities;) historically, as the scene of an engagement, in 1562, between the partisans of the Earls of Murray and Gordon, the beautiful, but unfortunate and erring Queen Mary being a spectator of it, as well as of Gordon's subsequent execution in Aberdeen, on which occasion she is said to have wept bitterly—so true was she at all times to her wayward disposition, at least, so saith tradition, as she points out Queen Mary's well, situated in a grassy glade on its side. The next point of interest is the Bridge of Potarch, a little above which the channel of the river is suddenly contracted to the breadth of fifteen feet—the effect of a dyke of felspar, which here forms the bank on one side, and a little farther down, passes completely under its bed.

Having thus dipped incidentally into the geology of the river's basin, we may remark that for almost its whole length, with few exceptions, such as an occasional patch of crystalline limestone, or a few detached strata of mica-schist, the surrounding country consists either of granite or gneiss, which seem to cover its surface in pretty equal proportions, the former predominating on the north, and the latter on the south side of the river, which drains this pretty extensive district. Passing rapidly through the villages of Kincardine-O'Neil and Aboyne, and catching a glimpse of the scared and rugged hills which enclose Glen Tanar and Birse, the latter of which enjoys something of a Bæotian reputation, for reasons known only to the natives, we emerge on a flat and cheerless moorland, worthy, we think, of being put in competition with the far-famed "Heath near Forres," the scene of Macbeth's encounter with

"These

So withered and so wild in their attire,
That look not like the inhabitants o' the earth,
And yet are on't."

However the moor of Dinnat need bear no such black character, for any disagreeable associations to which it may give rise, are at once dispelled, or ought to be, on our reaching its farther extremity, when its dull uniformity but gives greater effect to the beautiful scenery around Ballater, whose vicinity we are now approaching. The picturesque scenery of this lovely village has been said to resemble nothing more strikingly than "the steep hills of the Black Forest near Wildbad," so that any one who has been at the pains of visiting Wildbad, or other fashionable continental resort, may reconsider his good taste in doing so, without first having paid the tribute of admiration at the shrine of the rocky beauties of his fatherland, which, be it known, (for in many circles there are those who turn a deaf ear to the fact,) teems with scenery scarcely to be surpassed in point of beauty or sublimity.—²

Yes, fickle Fashion is a wondrous thing.

But, truly, the charms of this spot need to be clothed with no fictitious interest, to give it a place in the fond memory of every true admirer of Nature, as he gazes on its rocky walls of grisly hills, about whose swarthy sides the morning mists, in wavy contortions, "like a wounded snake, drag their slow length along" yonder clump of dark fir, which bristles from the rocky *debris* below, and now disappear over their lichen-painted and weather-beaten summits, with the blue smoke rising languidly in the still air from the hearths of the industrious peasantry.

And now that we have fairly entered the Highlands by so worthy a portal, we proceed right briskly on our way to Braemar by the road leading round the base of Craigen-darroch—the Rock of Oaks, from its southern

* Crede experto.—F. O. MORRIS.

exposure being clothed in a verdant mantle of bright green oaks, thus affording an agreeable contrast to the fir trees, (*Pinus sylvestris*,) which form the staple of the forest, whether natural or planted, in this district. Unfortunately this colony of the noble oak (*Quercus sessiliflora*) is cut down at intervals for economical purposes, though a few venerable monarchs of the race still survive, scattered here and there upon Deeside. Besides many views of the majestic Lochnagar, and other less striking hills, the objects of interest between this point and our ultimate destination are of a varied and interesting nature; of these, perhaps, the most worthy of note are the "Birks of Abergeldie," and Balmoral Castle. The former is a natural growth, extending for many miles around, of the fragrant birch, whose pendant tresses (at least in one variety) droop elegantly above our heads, rustling in every breeze. No wonder that such a proximity should have excited the poetic element in hearts less susceptible than that of the gifted Burns, who, in his ode, "The Birks of Abergeldie," (Perth,) beginning—

"Now simmer blinks on flowery braces,
And o'er the crystal streamlet plays,"

celebrates, in flowing numbers, such a scene; strangely enough, borrowing his chorus and metre from a song of older date, traceable to the very locality of which we are speaking, the "Birks of Abergeldie."

And now we near that pile of almost dazzling whiteness, (a very light granite,) nestling in glades of silvery birch and more sombre pine, which boasts a Royal Mistress. Let us then, as we leave its receding form, pray with every loyal subject, that she may in this her Highland home, yet spend many a happy hour, far removed from the cares of state, in the palmy days of PEACE.* Enjoying as we proceed a combination of scenery alike sublime, and fascinating in its beauty, we are apprised of our proximity to the Castleton, by obtaining occasional glimpses of the white walls of its castle, and more especially by the up-and-down (always characteristic of old bridges in Scotland) over the picturesque bridge that here spans the river.

The remainder of our course lies along the base of Craig Clunie, and the Lion's Face, (so named from some fancied resemblance to the said appendage of his shaggy majesty,) whose sides shooting up almost perpendicularly from our feet, clothed to their very summits in a tangled mass of vegetation, inspire with something like dread the pigmies at their base, lest at every instant they topple over, and bury bipeds, quadrupeds, stage and all, in extricable ruin. Without the occurrence of such an unlikely catastrophe, however, we drive merrily into the capital of Braemar.

The rest of this day we spent in a pleasant saunter in the environs of the village, and in the no less pleasant employment of making the acquaint-

* Amen.—F. O. MORRIS.

tance, through the kind offices of a friend, of a gentleman, who already on the ground, was destined to be the much-prized companion of most of my future rambles. I refer to Mr. Croall, of Montrose, a botanist who yields to none in a practical, and at the same time thoroughly scientific acquaintance with the productions of this interesting district,—add to which his extreme readiness to communicate his information to others, a quality to which the writer of these pages is indebted for anything of scientific interest they may contain, and which he would now gratefully acknowledge. As I looked on the bright heaps of yellow *Hieracia*, blending with the more delicate hues of *Astragalus alpinus* and other alpine plants lying before me, the lines of Wordsworth were forcibly recalled to my memory:—

“No floweret blooms

Throughout the lofty range of these rough hills,
Or in the woods, that could from him conceal
Its birth-place; none whose figure did not live
Upon his touch.”

On the following day I set out with my companion to Morrone, a pretty lofty hill to the west of the village. The first part of our ascent lay through a dense natural growth of birch, (*Betula alba*,) whose light and silvery drapery, springing from the most verdant flower-enamelled sward one could well wish to see, stretches quite round the north and east sides of the hill, almost unmixed with any other tree, down to the very brink of the river. Springing from a profusion of common plants, we perceive *Gymnadenia conopsea*, *Geranium sylvaticum*, *Polygonum viviparum*, with abundance of the bright golden balls of the Globe-flower, (*Trollius Europæus*,) and the no less acceptable flowers of the *Primula veris*, yet sparingly in flower. Nor did the rocks and trees appear less niggard than the lawn from which they rose, in supplying a rich harvest of the common cryptogamic plants, all of which it would be tedious, and perhaps out of place here, to enumerate; suffice it to mention, I gathered from the former, *Tortula tortuosa*, and the long, creeping, golden sprays of the *Hypnum sericeum*; while the latter was no less rich in beautiful tufts of *Orthotrichum Drummondii*.

(To be continued.)

BOTANICAL NOTES.

BY W. SUTHERLAND, ESQ.

THE occurrence of white flowers on plants, which normally produce coloured ones, is a subject of considerable interest to the botanical student, connected, as it is, with the colouring principles that operate in producing the beautiful tints which everywhere greet the eye in the vegetable kingdom. Their

existence can be traced to the absence, or extreme dilution of the only two colouring agents hitherto discovered in plants, *chlorophyl* and *chromule*; and consequently they may be expected to occur, under certain conditions, in flowers of all colours, from the deep blue tints of the *Cyanic* series, as seen in many hyacinths, to those of the *xanthic*, or yellow series, so prevalent in the *Ranunculaceæ*.

As instances of this transmutation of colour, we would specify the following as among the more important that have come under our observation:—

Symphytum officinale, (Common Comfrey,) with flowers of a dirty white colour, and in this respect almost identical with *S. tuberosum*. This variety we have seen only by the side of an old wall at Rubislaw, about a mile distant from Aberdeen. This station is also well worth a visit, from the fact of its producing *Teucrium chamædrys*, (Wall Germander,) a pretty little plant, which beginning to flower about the end of July, bedecks part of the wall with its spikes of small pink flowers, well relieved against its dark evergreen leaves, all over the autumn months; and, indeed, on visiting the spot in November last, we saw many specimens still in flower.

Polemonium cæruleum, (Jacob's Ladder,) we have gathered by the banks of a stream in the same neighbourhood, in one season of the purest white, while in another we found only specimens of the common blue colour.

Vicia sepium, (Hedge Vetch.)—We have seen specimens of this plant with white flowers, only in the parish of Auchindoir, in this county.

Cnicus palustris, (Marsh Thistle,) is by no means unfrequent in this quarter with white flowers.

Campanula rotundifolia, (Bell Flower,) is also of not unusual occurrence with this peculiarity. We have likewise observed in some plants a decided tendency to produce double flowers.

C. latifolia, on the banks of the Don, above Breda, in Alford, (white.)

Pedicularis palustris, (Marsh Lousewort,) producing white flowers, we have seen only near the upper course of the River Dee, as at the well-known Linn, and all along Glen Dee, to the foot of Ben Macdhuil.

The three British species of Heaths, which occur in this district, are all occasionally to be met with of a white colour, and then present a very pretty appearance. We refer to *Erica tetralix*, *E. cinerea*, and *Calluna vulgaris*. The former, however, surpasses the other two in variety of colouring; in some young patches of this species we have observed four or five different varieties, ranging from the white or pale rose-colour to the deeper shades of purple.

Galeopsis Tetrahit.—With us appears in tints equally diverse with those assumed by the plant of which we have just spoken, and certainly presents a better claim to the specific *versicolor* than the species which now bears

the name. We suspect this is another example of the "lucus a non lucendo" style, which calls a common *Plantago*, *maritima*, because it occurs not only on our shores, but thirty miles inland, (where we have repeatedly observed it;) and dubs a common *Gnaphalium*, *sylvaticum*, because it never seeks the shade of the umbrageous wood.

The agency of rivers and currents, in extending the distribution of plants, has long been recognised. For instance, nothing can be more probable than that in the flooding of mountain streams, which attends the melting of the snow on the approach of spring, many seeds of plants growing along their course, will be swept downwards by the torrent, and if accidentally impeded in their passage, will vegetate wherever they find suitable conditions. This phenomenon is well seen along the course of the Dee, which, for almost its whole length, (say ninety miles,) bears traces of the Alpine Flora, which characterizes its head-waters, becoming less marked, however, as we near the German Ocean. But even in the immediate vicinity of Aberdeen, such plants as *Arabis petraea* and *A. hirsuta*, may be gathered in places near the bed of the river, along with *Trollius Europæus*, *Pimpinella saxifraga*, *Alchemilla alpina*, *Oxyria reniformis*, *Meum athamanticum*, *Galium boreale*, *Saxifraga aizoides*, *Cnicus heterophyllus*, etc. And, perhaps, we ought to refer to the same cause the appearance on the sea-coast of the plants mentioned in the following quotation:—

" * * * In the tract extending from Peterhead to Banff, two or more localities have been observed for each of the following unexpected plants:—*Rhodiola rosea*, *Scilla verna*, and *Saxifraga oppositifolia*. I have recent accounts, too, though not yet completely verified, of another *Saxifraga* still more exclusively confined to the mountains,* having being detected on the same coast."

The facts here stated are extracted from a note to the Preface of the "Northern Flora," that admirable work, by the late Dr. Murray, of this city, an enthusiastic and successful student of the botany of his native country, and who was too prematurely cut off for botanical science in general, and the completion of his "Flora," which bade fair to take a very high place among the Local Floras of this country, and excelled most in the completeness and accuracy of its details.

In a previous volume of "The Naturalist," considerable attention was directed at the time to the distribution of our British Water-Lilies—*Nymphaea alba*, *Nuphar lutea*, and *Nuphar pumila*. Of the occurrence of the first two in this district, notice was taken at the time, as being the frequent inhabitants of many pools and lochs, all over the country. But it is to the occurrence of the third that we wish to direct attention at present.

* Perhaps he means *S. hypnoides*, which we have seen on the Kincardineshire coast, mostly however traceable to gardens.

We gathered it in considerable abundance last August in Loch Kinnord, in the Crowar district of this county, and not two miles north of the Deeside Turnpike, (the route to Braemar.) It also produces the other two species, and that in greater abundance. An hour or two spent by the botanist on the placid bosom of this loch, will always be looked back to, as among the most pleasant in his excursion. For yonder little island is almost encircled with a dense thicket of that beautiful and rare grass, *Calamagrostis epigejos*; and that bay to the south affords abundance of *Carex filiformis*, with its long tapering stem, and dark thread-like head of flowers. By a little dexterous "poking" in the muddy bottom, you will, without doubt, "land" a few specimens of *Isoetes lacustris*, or *Callitriche autumnalis*. Add to this the agreeable effect produced by whole sheets of yellow and white Water-Lilies, the graceful racemes of the bluish white *Lobelia Dortmanna* nodding in the breeze, and all surrounded by the stately stems of the *Arundo Phragmitis*, which seem to keep watch and ward over their more delicate brethren, with the fringe of silvery beech, (*Betula alba*,) that encircles the loch,—all are but parts in a picture, that has but to be seen to be admired. But apart from these purely botanical attractions, this loch, though possessing few of the features of a really alpine or Highland one, rejoices in not a few interesting associations connected with the neighbourhood. For, skirting its western shore runs the rocky ridge of Culbleen, which, a little north, finds its highest elevation in "Morven of snow," both well known as the favoured haunts of Byron, when he "roamed a young Highlander over the heath," while on the loch itself are two islands, (one of them artificial,) on which there are many appearances to lead us to concur with the prevalent belief that here the ancient Scottish kings had a castle, where, in time of peace, they spent the summer months in the exercises of the chase, having then, in all probability, to deal with far more formidable game than now falls to the gun of the keenest sportsman on the 12th., upon the adjacent Moor of Dinnat.

Gymnadenia conopsea.—We were not a little surprised, two summers ago, in re-visiting, after a few days absence, a spot on which this beautiful orchid grew in great abundance, to find that all our little favourites had apparently been spirited away by some charm or other, for assuredly not one was to be seen. But, on closer inspection, we found that wherever a plant had been, there was now nothing, save a little funnel-shaped hole, carefully scooped out; and a little watching soon revealed the perpetrators of this shocking deed to be our old friends, the Rooks, who, for some reason or other, had taken a liking to these delicious tubers. By playing us this little trick, Mr. Crow had almost for the time, lost in us an advocate for his preservation, and a believer in the fact that he bears a very important and useful part in the economy of Nature. But at all

events we could scarcely have taken the advice of an advertiser in the "Inverness Courier," of a recent date, and prescribed for him a doze of *Nux vomica*. This enlightened writer, who, by-the-bye, must either be some designing quack, anxious to "get off" a box or two of his favourite nostrum, or some deluded agriculturalist, gives the world at large the following sage advice:—"Dissolve one pound of *Nux vomica* in warm water, enough to steep one bushel of light barley, and then scatter it near the dung-heaps in the fields. Pick up the Rooks when sick from the poison, as they may frighten off others from eating it, and put them in a heap, where they will make excellent manure (bones and feathers)." This wholesale method of going to work will surely stand comparison with any hitherto recorded exploit of those redoubtable institutions, "Sparrow-destroying Societies." Such is another deplorable instance of the short-sightedness of us mortals, in discriminating between our true and false friends.

Before concluding these remarks, which have been but too hastily thrown together, we wish to say a few words on a plan, which, if not hitherto extensively carried out in practice by the readers of "The Naturalist," we conceive no reason why it should not be. We refer to the exchange of botanical and other specimens, through the medium of this paper, between such parties as may be desirous of furthering the completion of their collections by this method. We have a corner monthly devoted to the "Querist," and another to the "Retrospect," which are all very good in their way, and have admirably fulfilled the purposes for which they were set on foot. But why have we no EXCHANGE? Much space would not be required, merely enough to record the names and addresses of parties, wishing to participate in the pleasures and profits calculated to arise from this plan, with perhaps an occasional note of such desiderata as are more particularly desired by, and of duplicates at the disposal of, such parties. We believe that this plan, which is no other than the *introduction* (if you will) of parties at a distance, so situated as to be mutually serviceable to each other in the collection of objects of Natural History, has been found far more effective in compassing the desired ends, than the often clumsy machinery set on foot by large Societies, and otherwise, for the purpose specified. Besides were the scheme once properly organized, an amount of information regarding the distribution, etc., of species might be gleaned, which would considerably enrich the pages of "The Naturalist" from time to time. It is under this impression, gentle reader, that we have ventured to bring this matter before you for consideration, and that at a time when any new feature in this periodical might be very gracefully introduced.

Aberdeen, January 19th., 1856.

* This is a very good suggestion, and falls in with a similar plan which I had myself thought of. It shall be adopted.—F. O. MORRIS.

THREE DAYS IN THE FALKLAND ISLANDS.

BY J. S. WALKER, ESQ.

MIDNIGHT on the South Atlantic! Through the driving mist, over the surging billows, the huge steam ship foams and roars along. We are off Cape Horn, that tempestuous region so much dreaded by mariners, whose sterile rocks oppose the only barrier to the long roll of the waves, which, unbroken by any land for three thousand miles, ceaselessly lash its shores. The ship is surrounded by icebergs of immense size and varied forms, through which we carefully thread our course. At this season of the year, in these high latitudes, the night brings no darkness, and we pass so close to leeward of one large berg, that we can distinctly discern the icicles hanging from the huge caverns, which the waves have fretted in its sides, whilst the surf breaking with a noise like thunder, dashes the spray high up on its icy pinnacles. We look with wonder and awe upon the picture of desolation it presents. Its cold surface of virgin snow has probably never been pressed by any living creature. The solitude seems death-like, and the very wind as it passes over it, comes to us laden with a freezing vapour; but, as if to prove that there is no place in the whole world which the Great Creator has left untenanted, a solitary sea-bird, skimming over the waves on rapid wing, flits by, and is lost to our view in a moment. Whither can this wanderer be bound at this hour of the night, and on what errand? The nearest known land is distant several hundred miles, and it is hastening away in an opposite direction. Perhaps it is in quest of some rocky island hitherto undiscovered by man, far away in the regions of thick-ribbed ice, where it may build its nest and rear its young in safety. "The God of Nature is its secret guide."

What a different scene breaks upon our view just one week later, when, early in the morning of the last day of the year 1853, the Great Britain slowly steams into the snug anchorage of Port Stanley, the capital, and indeed the only settlement in the Falkland Islands. The sea is as smooth as glass, and the sun shines brightly overhead. Large numbers of fish, which the sailors call Skip-Jacks, are leaping from the water. Terns, Gulls, Whale-birds, Cape-hens, and others of the Palmipedes, are busily engaged fishing. Several specimens of the Great Penguin, (*Spheniscus Magellanicus*), poke their heads above the surface of the water to take a peep at us, and dive down again instantly, in a state of intense alarm. A beautiful snow-white Gannet hovers over the ship; whilst in the distance long lines of Wild Geese and Ducks are crossing the Bay.

At 10 A.M. we drop anchor off the settlement. The distant country looked anything but inviting. As far as we could see a succession of rock-capped hills extended, covered with grass and herbs up to the sunmits, but

not a vestige of a bush or tree on which the eye could rest to break the wearisome monotony. However our stay is to be very short, and it is necessary to make the most of our time, and as three of my fellow-voyagers have agreed to accompany me on an expedition into the interior of the island, we hasten on shore to make the necessary preparations.

Having secured horses and the services of a Guacho as guide, we start early the following morning to ride across the country to Port Louis, situated on Berkeley Sound, where the original settlement was founded. We are provided with guns and a plentiful supply of ammunition, for we have been told that the country abounds with rabbits and wild-fowl. We have been so long cooped up on board ship, that it is quite delightful to find ourselves once more in the saddle, and galloping across the plain. After riding two or three miles to the head of the bay, we struck across the hills into the interior.

The first fifteen miles of our journey was by no means pleasant riding. The country, or camp, as the Falklanders term it, consisted of a succession of bogs and morasses; the horses sinking over the fetlocks at every step, and several times we narrowly escaped getting bogged. After struggling and wading through this miserable country for a couple of hours, we ascended a steep hill, which is, I believe, the highest in East Falkland, from whence we had a splendid view of the entrance and harbour of Port Louis. We coasted round the shores of the bay for several miles, and late in the evening, tired and wearied, reached the settlement where we were to pass the night.

Port Louis consists of only two houses, built of stone (unhewn) in a substantial manner, but only one of them is inhabited. At a short distance stands the ruins of an old fort, with a few dismantled cannon, half buried in the ground, and the remains of some houses, which had been destroyed during the early years of the colony by an American brig of war, in retaliation for an alleged injury perpetrated upon some American whalers.

This district is in the possession of the original Falkland Island Company, who own about two hundred and fifty sheep, and large herds of cattle and horses. About one-half of the sheep are pure bred South-downs, and the rest a cross between that breed and the coarse Monte Videan sheep. They were all in excellent condition, and the shepherd assured us they thrived as well here as in the "Old country."

The common grass of the country is coarse and wiry, but there are many herbs of a fattening quality. We saw a little white clover growing round the settlements, which seemed to thrive pretty well; the chief dependence, however, is upon a long sedgy grass of the genus *Carex*. The Tussac, of which the cattle are extremely fond, and which is stated to be very nutritious, is becoming scarce upon various parts of the island, having

been eaten down and destroyed by the stock. It grows somewhat like the Tree Fern of Australia, but is only half the size.

The geological formation consists of sandstone and clay slate. The country is hilly, but the highest parts are as boggy as the flats, and it is everywhere covered by a peaty soil. The tops of the mountains are thickly strewn with detached boulders of a coarse white quartz rock. Many of these have fallen, or been displaced by some convulsion of nature in such a remarkable manner, that from a short distance it is difficult to persuade oneself that it is not an actual stream of water; and on approaching one of these rivulets of stones, we were much surprised to find that we could distinctly hear the water brawling along under the rocks.

The climate is boisterous, and the changes of temperature very sudden, although the Islanders do not suffer from the extremes of either heat or cold. Even in the midst of summer they are subject to violent snow-storms, which destroy a great many cattle; indeed, the weather is so tempestuous, that it is only in sheltered situations they are enabled to grow a few vegetables—the cultivation of cereal crops is not even attempted. But what gives an air of desolation is the fact, that not a single tree is found on the whole of these wretched islands; and it was only in one or two sheltered situations that we saw a few stunted bushes, about two or three feet in height.

West Falkland, which is stated to possess a finer climate and “camp,” and several excellent harbours, is uninhabited—for what reason I know not. It is frequented at certain seasons of the year by whalers and sealers, (chiefly American,) and by vessels in quest of guano, considerable quantities of which are found on several of the rocks and islets.

The anchorage of Stanley harbour is excellent; it is easy of access, and is admirably adapted for a coaling depôt for steamers. Berkeley Sound is also a good harbour; it is sheltered from all winds by Long Island, which stretches nearly across the entrance, leaving a navigable channel on either side. This island belongs to the Port Louis Company, and being of considerable extent, and covered with Tussac grass, it is used for the purpose of fattening their cattle, which are driven across by the Guachos when the tide is out.

It is stated that coal exists in these islands, but we saw none, nor any indications of it. Peat is used for fuel, and also a small shrub, which is of so inflammable a nature, that it burns readily even when quite green. When this cannot be procured, the bones of the cattle and horses are used as a substitute.

The inhabitants depend chiefly for subsistence upon the produce of their guns. At the house where we stopped at Port Louis, the shepherd and his family were without any bread, but, except in lieu thereof a little

maize meal, of a coarse description, and a few dried beans, they subsisted literally upon wild-fowl and rabbits. The place was filthy beyond description,—cold, dirty, and comfortless, whilst fuel was very scarce and of an inferior quality. We could not avoid drawing a comparison between this man's condition and that of a shepherd in the country which we had just left, and as we did so we sighed for the balmy air and the blue skies of Australia.

(To be continued.)

MINUTE SKENEA.

TO THE EDITOR OF "THE NATURALIST."



1.—Highly magnified.

2

2.—Natural size.

THROUGH the kindness of Spence Bate, Esq., I am enabled to send you a drawing of an extremely minute *Skenea*, which I found in sand taken amongst *Corallina officinalis*, from rock pools at Gwyllyn Vase, near Falmouth. It is involute, like *Skenea nitidissima*, and equally umbilicated both above and below, but the whorls, which are three instead of two and a half, as in that shell, do not increase quite so rapidly in size. Its distinctive feature consists in having three spiral ribs of a shining fulvous tint, which contrast strongly with the whitish ground colour of the shell; one is situated on each side, extending from the apex to the orifice, and the third, which is not so distinctly elevated, on the centre of the body.

The entire volutions appear under a good lens distinctly wrinkled longitudinally, more especially on the inner sides, and under a still higher power, finely striated spirally. The mouth, which is well rounded, and does not turn to either side, embraces a considerable portion of the body whorl. The *operculum* I have not been able to examine. Its diameter hardly equals the twentieth of an inch. As yet I have only obtained four specimens, but have still some small portion of the sand in which they are found, remaining unexamined.

If the shell, as described above, is already known, I should feel greatly obliged if any of your scientific correspondents would favour me with the name.

I am borne out in my opinion that it is new to the British Fauna by Dr. Battersby, of Torquay, who has kindly examined the shell. Should it prove

equally new to science, *Skenea tricarinata* would be a very appropriate designation.

It may be interesting to some of your readers to know that I met with several fine specimens of the scarce *Crenella costulata* in rock pools in Mount's Bay, and also *Modiola phaseolina* in some abundance in the same locality.

W. WEBSTER.

Upton Hall, near Birkenhead, June 21st., 1856.

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 185.)

Taphozous senegalensis, *Desm. Temm.*

Schinz.

Taphozous leucopterus, *Temm. Schinz.*

Taphozous saccolaimus, *Temm. Schinz.*

Taphozous melanopogon, *Tem. Schinz.*

Taphozous longimanus, *Hardw. Linn.*

Temm. Schinz.

Taphozous bicolor, *Temm. Schinz.*

Taphozous mauritanus. *T. mauricianus*, *Geoff. Desm. Temm. Schinz.*

Taphozous lepturus, *Geoff. Desm.*

Schinz. Vespertilio marsupialis,

Müll. V. lepturus, *Schreb. Fisch.*

Temm.

NYCTERIS.

Nycteris thebaica, *Geoff. Schinz. N.*

Geoffroyi, *Desm. Fisch.*

Nycteris albiventer, *Wag. Schreb.*

Schinz.

Nycteris affinis, *Schinz.*

Nycteris discolor, *Wag. Schreb. Schinz.*

Nycteris capensis, *Smith. Schinz.*

Nycteris hispida, *Schinz. N. Dauben-*

tonii, *Geoff. Vespertilio hispidus*,

Schreb.

Nycteris javanica, *Geoff. Wag. Schinz.*

NYCTOPHILUS.

Nyctophilus Geoffroyi, *Leach. Temm.*

Wag. Fisch. Schinz.

RHINOPOMA.

Rhinopoma microphyllum, *Geoff.*

Schinz.

Rhinopoma carolinense, *Geoff. Desm.*

Schinz.

RHINOLOPHUS.

Rhinolophus nobilis, *Horsf. Temm.*

Fisch. Schinz.

Rhinolophus diadema, *Geoff. Desm.*

Fisch. Temm. Schinz.

Rhinolophus insignis, *Horsf. Schinz.*

R. vulgaris, *Horsf. Temm.*

Rhinolophus speoris, *Temm. Schinz.*

Vespertilio speoris, *Schreb.*

Rhinolophus griseus, *Meyer. Schinz.*

Rhinolophus larvatus, *Horsf. Temm.*

Schinz.

Rhinolophus dukhunensis, *Sykes. Tem.*

Schinz.

Rhinolophus bicolor, *Temm. Schinz.*

Rhinolophus tridens, *Geoff. Temm.*

Fisch. Schinz.

Rhinolophus tricuspidatus, *Tem. Schinz.*

Rhinolophus Commersonii, *Tem. Geoff.*

Schinz.

Rhinolophus luctus, *Temm. Schinz.*

Rhinolophus Euryotis, *Temm. Schinz.*

Rhinolophus trifolius, *Temm. Schinz.*

Rhinolophus unihastatus, *Schinz. R.*

ferrum equinum, *Leach. Bonap.*

Vespertilio ferrum equinum, *Schreb.*

V. hipposideros, *Herm. Noctilio*

ferrum equinum, *Bech.*

Rhinolophus clivus, *Kretsch. Rüpp.*

- Rhinolophus capensis, *Licht. Schinz.*
R. Geoffroyi, Smith.
 Rhinolophus Nippon, *Tem. Wagn. Schinz.*
 Rhinolophus affinis, *Horsf. Tem. Schinz.*
 Rhinolophus Rouxii, *Tem. Schinz.*
 Rhinolophus bihastatus, *Geoff. Tem. Schinz.* *R. hippocrepis, Kies. Bonap.*
R. hipposideros, Leach. Vespertilio
 hippocrepis, *Herm. V. minutus, Mont.*
V. ferrum equinum, Linn. Schreb.
 Rhinolophus minor, *Tem. Horsf. Schinz.*
 Rhinolophus pusillus, *Schinz. R. pusille, Tem.*
 Rhinolophus cornutus, *Tem. Schinz.*
 Rhinolophus megaphyllus, *Gray, Schinz.*
 Rhinolophus Landeri, *Mart. Schinz.*
 Rhinolophus fumigatus, *Rüpp. Schinz.*
 Rhinolophus Morio, *Gray, Schinz.*
 Rhinolophus Martini, *Fraser. Schinz.*
 Rhinolophus pygmaeus, *Cum. Schinz.*
 Rhinolophus philippensis, *Cum. Schinz.*

MEGADERMA.

- Megaderma Lyra, *Geoff. Fisch. Schinz.*
 Megaderma frons, *Geoff. Leach, Fisch. Schinz.*
 Megaderma spasma, *Fisch. Schinz. M. trifolium, Geoff. Desm.*
 Vespertilio spasma, *Schreb.*
 Megaderma philippinensis, *Cum. Schinz.*

PHYLLOSTOMA.

- Phyllostoma macrophyllum, *Prinz Max. Fisch. Schinz.*
 Phyllostoma cirrhosum, *Schinz. Vampyrus cirrhosus, Spix.*
 Vespertilio Brasiliae, *Fisch.*
 Phyllostoma crenulatum, *Geoff. Fisch. Schinz.*
 Phyllostoma elongatum, *Geoff. Fisch. Schinz.*
 Phyllostoma hastatum, *Geoff. Schinz.*
Schinz. R. Clifton, Tem. Schinz.
P. maximum, Prinz Max. Vespertilio
 perspicillatus, *Schreb. V. hastatus, Pallas.*
 Phyllostoma bidens, *Spix. Schinz.*
 Phyllostoma bicolor, *Wagn. Schinz.*
 Vampyrus soricinus, *Spix.*
 Phyllostoma breviceaudum, *Prinz Max. Schinz.*
 Phyllostoma Grayi, *Water. Schinz.*
 Phyllostoma Redmanni, *Schinz. Monophyllus Redmanni, Leach.*
 Phyllostoma silvicola, *Schinz. Lophiostoma silvicola, D'Orbigny.*
 Phyllostoma perspicillatum, *Geoff. Water. Schinz. P. planirostre, Spix.*
P. obscurum, Prinz Max. Vespertilio
 perspicillatus, *Linn. Fisch.*
 Phyllostoma jamaicense, *Horsf. Schinz. Artibeus jamaicensis, Leach, Gray.*
 Phyllostoma falcatum, *Schinz. Artibeus falcatus, Gray.*
 Phyllostoma superciliatum, *Prinz Max. Schinz. P. lituratum, Licht. Fisch.*
 Phyllostoma lineatum, *Geoff. Licht. Fisch. Schinz.*
 Phyllostoma brachyotum, *Prinz Max. Fisch. Schinz.*
 Phyllostoma infundibuliforme, *Schinz.*
 Phyllostoma rotundum, *Geoff. Schinz.*
 Phyllostoma Lilium, *Geoff. Schinz. P. spiculatum, Licht.*
 Vespertilio hastatus, *Azara.*
 Phyllostoma spectrum, *Geoff. Schinz.*
 Vespertilio spectrum, *Linn. Schreb. Vampyrus spectrum, Geoff.*
 Phyllostoma Waterhousii, *Schinz. Macroctus Waterhousii, Proceed.*
 Phyllostoma megalotis, *Gray, Schinz.*
 Phyllostoma longifolium, *Natt. Schinz.*
 Phyllostoma amblyotis, *Natt. Schinz.*
 Phyllostoma discolor, *Natt. Schinz.*
 Phyllostoma personatum, *Natt. Schinz.*
 Phyllostoma pusillum, *Natt. Schinz.*
 Phyllostoma Leachii, *Schinz.*
 Phyllostoma verrucata, *Schinz. Artibeus verrucatus, Gray.*

Phyllostoma Vampyrus, *Schinz.* Stur-
nira spectrum, *Gray.*
Phyllostoma excisum, *Wagn. Schinz.*

Phyllostoma bilabiatum, *Schinz.*
Phyllostoma calcaratum, *Wag. Schinz.*

(To be continued.)

Miscellaneous Notices.

"SEE THE CONQUERING HERA COMES!"

Callimorpha Hera a British Insect.—In "The Entomologist's Weekly Intelligencer," No. 18, for August 2nd., 1856, there appeared the following paragraph:—"The pen of a Northern Divine is about to prove that *Hera* must be a British Insect, as it occurs in the Channel Islands abundantly."

Hereby hangs a tale—"Many a true word is spoken in jest."

In the "Intelligencer" of June 7th., 1856, the following *dictum* was laid down:—"The insects of the Channel Islands are *not* considered as British." *Not* thinking that a simple assertion ought to decide the matter, I wrote the following note to the editor, Mr. Stainton, but for reasons best known to himself he never inserted the reply to his "ipse dixi," the rationale of which will be apparent to any one having an ordinary conception of the deductions of common sense:—

Nunburnholme Rectory, Hayton, York, June 17th., 1856.

Dear Sir,

With reference to the observation in the last number but one of the "Intelligencer," that the "Insects of the Channel Islands are not considered as British," I beg leave to propose the following questions:—

1st.—Are Guernsey plants considered as British by the leading botanists?

2nd.—Are Guernsey shells considered as British by the leading conchologists?

3rd.—Is it anywhere else promulgated that one class of the productions of a country is to be considered as belonging to that country, and that another class is not?

4th.—By whom, where, when, and on what authority is it laid down that the Insects of the Channel Islands are not to be considered as British?

Yours truly,

F. O. MORRIS.

This letter, as I have above stated, was not inserted, accordingly, on the 14th. of July, I wrote to ask that as a "matter of justice," the remarks on the assertion might have the like "locus standi" accorded to them which had been given to it. This request, which one would have thought the impartiality which a true spirit of science rightly lays claim to would have dictated a compliance with, was equally unattended to. I therefore wrote to ask to have my letter returned, and this was done.

My readers have it here, and I think I can calculate with confidence upon their verdict in favour of *Hera* "on the evidence."

To these questions I now add—

5th.—Is there any other instance of the productions of one part of a country being considered as belonging to that country, and those of another part not?

6th.—Which is farthest from the English coast, Guernsey or Shetland; the birds, etc. of which latter are on all hands allowed to be British?

August 4th., 1856.

F. O. MORRIS.

Capture of Birds in Brunswick Square, Brighton.—In May, 1855, I caught a fine male Nightingale in the garden enclosure of Brunswick Square, Brighton, as well as several Whitethroats, Whinchats, and Redstarts, both male and female. I have also seen there abundance of Willow Wrens and Chiff-Chaffs in the spring, one of the former of which I caught. This year I again noticed birds of the same kind in Brunswick Square, and caught several, as well as a Sedge Warbler. Considering the publicity of Brighton, it appears rather a curious fact that these birds should resort here annually. The Square seems to be a favourite resting-place on their first arrival in this country, but they seldom remain more than two or three days.—CHARLES D. POTHILL, 17, Brunswick Square, Brighton, July 3rd., 1856.

Singular treatment of a Fly by a Wasp.—Last summer I was watching attentively the movements of a wasp in a window, when, suddenly, to my amazement, it pounced upon a large fly. A combat immediately ensued, in which the wasp, apparently from the commencement of the attack the more powerful of the two, came off victorious. It then adopted a mode of treatment resembling, on a small scale, that practised by conquerors in uncivilized times—proceeding to put to death its fallen foe by torturing it. First of all, the poor fly was deprived of its wings, then mounted and compelled by the occasional application of its conqueror's sting to run up and down the pane of glass with great rapidity. When this had been done, evidently to the satisfaction of the wasp, it separated the legs of the poor fly from its body, and leaving it in this deplorable condition, flew away, as if triumphing over its victory.—THOMAS FOGGITT, Thirsk, July 12th., 1856.

The Querist.

Great Crested Grebe.—You will find the Great Crested Grebe at page 198 of the 1831 edition of Montagu's book, under the name of "Gaunt." The book is, I think, quite worthless, from the difficulty of understanding what bird Rennie really means in most instances.—HENRY SMURTHWAITE, Richmond, July 1st., 1856.



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A VISIT TO REFLEY WOOD.

BY T. S.

Two miles from Lynn, a large town in West Norfolk, stands Refley Wood, or, as it is more commonly called, Refley Spring; and a fine old wood it is! Oaks which have stood for ages, and still put forth their deep green foliage with the returning summer, lofty elms, spreading sycamores, and scented limes abound. Briar and rose, woodbine and bryony, all that renders a wood-scene lovely, are there. Near its centre, at the base of a lofty column, runs an unceasing spring of mineral water, falling with a gentle murmur, cool and refreshing, from the ever open lion's mouth into the basin below; close by is the "Temple," guarded by two couchant sphinges, stern and stony, and various other shelters from the summer's sun or sudden showers are close at hand. And this lovely spot is free—free to all. Its noble-hearted proprietor throws open its green shades and fragrant bowers to all, poor and rich without distinction; well do they appreciate his generous care for their happiness; and day by day, all summer through, smiling faces, beaming with pleasure, may be seen leaving their toil in factory and shop, to enjoy nature's beauties, and drink in health and vigour at "the spring."

Many happy hours have I spent in Refley Wood, and if the reader will accompany me we will join the cheerful throng, who, on pleasure bent, wend their way along the dusty road, to enjoy a summer afternoon in its cool recesses. Having left our horse at the farm-house near the gate, we enter the wood. What a feeling of awe creeps over us as we walk beneath its time-hallowed oaks, some shattered and bare, rent and riven by many a storm, blasted by lightning, and bleached by sun and rain, others fresh and green, flourishing on in a healthy old age, ivy-clad and wreathed with scented honey-suckles. But we are not long left to our meditations; sounds of gladness and laughter break upon us, and soon we see the happy party seated on the grass under the trees, all restraint, like hats and bonnets, thrown aside, and each intent on fun and the good cheer which has just been drawn from its hiding-place in those large hampers; what happiness is depicted on each countenance! who will say that the spirit of the English is broken by work—work? True it is, such opportunities are few and far between, but when they *do* occur, who shall say that England is not *merry* England still? Now, their repast over, they have retired to yon open space, and are joining in the sprightly country dance, (what a contrast to the cold, stiff, fashionable ball-room,) with intervals of song; and some few happy couples are stealing away to breathe forth their mutual vows of pure affection in nature's noblest temple—disturb them not!

Let us leave this happy party, and, crossing the adjoining field, seek nature undisturbed. The gamekeeper is lord there; but fear not, we are privileged, and he dares not to molest us. How often has the naturalist to regret the existence of such a functionary as the gamekeeper; just at the time when he should be most active, the Pheasants are laying, and he is shut out from his favourite haunts; even the botanist is prevented from searching for his flowery treasures, lest he should disturb the Pheasants; and Butterfly, Moth, and Beetle share the same holiday. The gamekeeper, too, is often, not always, an ignorant prejudiced fellow, caring for nothing, and mercilessly destroying everything as 'vermin' which *he* imagines molests his dear game; it is useless trying to argue with him, what he has believed he will believe, "and there's an end on't." A friend of the writer, an enthusiastic naturalist, was busily searching for a Short-eared Owl which he had just lost sight of, when he met a man, in whom his eagerness to get another sight of the Owl prevented his recognising the dreadful keeper, and he anxiously asked, "Did you see a Short-eared Owl just now?" "Yes." "Oh, which way did it go?" "I can see it now," said the man. Thinking he had discovered a clue to the missing bird, he lost no time in asking "Where?" when the keeper replied in a surly tone, pointing at the same time to our friend. "There it stands!"

But here we are at the low wood; what a solemn stillness reigns! it is almost oppressive; the ground is covered with thousands of flowers, which fill the air with their perfume, and delight the eye with their varied and beautiful colours. Listen to the melancholy 'coo, coo,' of the Ring Dove, and now the distant 'caw' of the watchful Rook steals over the ear; our presence seems to have awaked the whole place to life; the Woodpecker laughs as it flies from yon old ash tree, the Jay screams harsh and discordant, and the Blackbird starts with frightened note from the thicket. How graceful is that Fern, rearing its pale green fronds from the earth, and those beautiful Foxgloves; and see that gorgeous mass of yellow Broom! Who does not feel the influence of a scene like this? How dead must be the heart which throbs not with delight and awe! awe for that Great Being who framed everything with such perfection and beauty. The more minutely we investigate His works, the more shall we be impressed with their beauty and perfection.

"Not a tree,

A plant, a leaf, a blossom, but contains
A folio volume; we may read, and read,
And read again, and still find something new,
Something to please, and something to instruct,
E'en in the noisome weed."

We are now passing through the Whin cover, where there is very little timber, only an oak here and there; the ground is covered with

heath and long grass, and studded thickly with Whin bushes in full bloom. There goes a Kingfisher from the steep side of a pit on our right; see how the rays of the setting sun glance upon its beautiful plumage! most likely it has young ones deep in the gravelly bank. Whilst fishing a short time ago in a quiet secluded pond fringed by bushes, one of these beautiful little birds perched on the end of my rod, and there took its station for a short time; one involuntary tremble of the hand and it was gone like a flash of light.

The sun has descended below the horizon, and it is already almost dark in the recesses of the wood, but still we linger to enjoy the softness and beauty of the summer night, and to listen to the luscious notes of the Nightingale; all the other singing birds are silenced except the Whitethroat, which utters an occasional strain as we disturb it in sauntering past; but the Wood Owl startles us with its 'hoo-hoo,' and the Nightjar glides past, hawking for the moth and chaffer; hark! there is its long-continued 'chirr-r-r-r,' how it sounds through the stillness of the night! and the distant baying, too, of the keeper's dogs! And now we have reached the field again, and hear the Land-rail and Partridge calling. Bats, too, are abroad, and the moonbeams falling on the branches of the old trees, call forth strange forms, and confused masses of light and shade. What music there is in the ripple of the falling spring. What! our friends not gone yet! Like ourselves, the beauty of the night has made them forget their homes; but they seem fatigued, and will not stay long behind us.

Farewell dear old Refley! long may thy woods resound with the merry laugh of health and youth; long may the old tell of the days when they were young, as they smoke the pipe of peace in thy shades; and long may thy generous owner live, and enjoy those blessings he has so freely placed within the reach of others!

Lynn, July 31st., 1856.

EXTRACTS FROM CORRESPONDENCE WITH A BROTHER NATURALIST.

BY FREDERICK M. BURTON, ESQ.

(Continued from page 125.)

How interesting the numerous tribes of insects are this hot weather, you meet with them in every possible locality. Last week I saw a thin column of millions of black gnats on the top of the broad tower of Lincoln Cathedral; they formed a sort of cone in shape, and kept just in the centre. It seems strange that they should choose such an elevation to congregate in. I remember once, while the Great Northern Railway was forming, going down a shaft, and along the bore of a half-formed

tunnel near Grantham, we carried candles in our hands, and had to stoop the whole way, and yet in the very centre a gnat flew off the damp walls, and fluttered round my light; in the same place also some queer-looking fungi had established themselves, as representatives of the vegetable world. While once at the very top of Snowdon, on a windy and foggy day, I caught an ambitious specimen of the little green oak moth, (*Tortrix viridana*,) on the pole planted on the summit. I have often thought that a very interesting account might be written of the change that animals make in their food at different times of the year. Dogs, for instance, will eat grass, particularly in dry, hot weather; and I have an old tom cat who has taken lately to the same sort of food—he bites off a long blade, and eats it up from end to end like a rabbit. I recollect also seeing a dainty Welsh hen last year, as I was walking from Dolgelly to Barmouth, plucking off and devouring the ripe blackberries within her reach on the roadside. I thought at the time she did it for the sake of the grubs within, which, to my cost, I remember infested almost every berry; but Pheasants will do the same, and I once kept some of the golden species, which used to enjoy nothing so well as a ripe bunch of grapes.

Some dogs are very fond of fruit, and will eat nuts and walnuts, cracking them as cleverly as a Squirrel; and I once had a Spaniel which used to eat all the gooseberries and currants within her reach, and woe to the strawberry bed if she ever got to it. The currants she managed very cleverly; being rather old and asthmatical, she soon found out that the stalks were troublesome, so she used to draw the fruit off between her teeth, and leave the stalks behind. But perhaps the most extraordinary instance of this kind I have ever met with relates to a cat of mine which has acquired a taste for rice pudding, and to make it more singular, instead of licking it off the plate, like any common Cat, she uses her paw for a fork, and feeds herself like a civilized being.

Last week the following singular anecdote was related to me of a hare. In the middle of the river about half a mile from here, there is an island accessible from the mainland by only one bridge. A poacher's dog chased a hare across this bridge on to the island, and the owner of the dog posted himself on the bridge to make sure of his game; but pussy was not to be caught in that tame way, for when she reached the opposite bank and found there was no way to escape, she took a good spring and swam safely across—a distance of about seventy yards. I heard also of another and more singular instance of a hare taking to the water, not from fear, but for her own amusement:—A friend of mine was going to a piece of water to shoot a young Wild Duck, and on coming in sight of the pool, he saw something floundering out in the middle; and as Otters frequent the place, he fancied it must be one, and prepared for a shot; but to his

surprise, on coming closer, he found that it was a hare taking a bath, and on seeing him she merely swam leisurely to the side, shook herself, and trotted away.

In one of the late numerous thunder-storms, an Elm tree in this neighbourhood was struck by lightning; some men who were taking shelter in an adjoining hovel, felt the shock distinctly, and on the storm abating, they found dead under the tree several Thrushes and three or four Starlings. Wasps have been unusually abundant this season, and they creep in and out at every crevice. In my own peculiar room, I have a little maple sanctum with numerous small drawers, in one of which there has been, for some weeks past, a jar of black currant preserve stored away under lock and key. This morning I was much amused at seeing a Wasp enter the window and fly straight to the drawer, which was shut, and march in through the keyhole to the preserve. No doubt the smell attracted him, but from his going straight up to the spot, I imagine he had been there before, and that the impelling power which guided him was as much akin to memory as instinct. Speaking of memory reminds me of an almost incredible anecdote about a dog, which, however, comes from truthful authority:—

A gentleman who is very fond of farming, and a large breeder of sheep, was Grouse shooting with some friends near Inverness, when he was much struck with the sagacity of the Highland Colleys, and on leaving the country he took home a very fine one for the purpose of introducing some of the right sort of blood into our own mongrel breed of sheep dogs. The dog was carried by his new master from Inverness by coach to Glasgow, shut up in a sort of cage so constructed that he could not possibly see anything but the sky, the cage being open at the top only. After passing a night at Glasgow, he was conveyed next morning, in the same cage, down the Clyde, and with his master proceeded by steamer to Liverpool; landed there, and in due course of time was taken on, still shut up in the cage, to his destination in this country. Here, of course, he was much admired, and did his work well, until about three weeks after his arrival, when he was suddenly missed. Every means was taken, by advertising and offering rewards, to recover him, but without success; until, after the lapse of a little time, it was heard that a dog answering the description of the advertisement had been seen wandering about the docks at Liverpool for several days, but no one knew what had become of him. Nothing after this was made out further, until a short time afterwards, when a letter arrived from the old shepherd in Scotland, informing the gentleman who had purchased the dog that he had actually found his way back, unaided and alone, to his old master's shealing.

Uppingham, August 11th., 1856.

A VISIT TO BRAEMAR IN 1855.

BY W. SUTHERLAND, ESQ.

(Continued from page 204.)

WE now gradually emerge from what, in the case of this particular hill, may be called the region of birches, which now began to dwindle rapidly in size as we increased our elevation, and found the vegetation assuming more of a sub-alpine character. About this point occurs, perhaps, the highest cultivated ground in Scotland, probably in Britain, in the shape of a few oat and potatoe fields—green patches, which, as seen from a distance, give a pleasant variety to the landscape. A little further on, upon a mass of limestone, which seems in its continuation downwards to underlie the birches, and again makes its appearance at the bridge over the Clunie, in the village, we found on its somewhat bare and unpromising surface, such plants as *Helianthemum vulgare*, *Potentilla alpestris*, *Rubus saxatilis*, *Arabis hirsuta*, etc. Here also Mr. C. was fortunate enough in discovering two rather rare mosses—*Gymnostomum Donianum* and *Weissia latifolia*. In the loose pile of stones lying at its base, we gathered *Asplenium viride*, which, as it was my first acquaintance with this beautiful little Fern, I had some difficulty in not confounding with a commoner congener, *A. trichomanes*, likewise occurring in the district, although the same difficulty is not likely to occur again, as I, there and then, carefully dislodged a young plant of it, and have duly consigned it to the somewhat narrow precincts of a city flower-pot—quarters with which it seems in no way inclined to quarrel, as even now (March) it is gradually uncoiling its little verdant fronds. A *Cystopteris* also occurred here, which seemed to belong to the dentate group of that very variable genus. In such localities a large collection of mosses and lichens, not exclusively confined to very high altitudes, might be made. In the cursory inspection which our time allowed us to make, we gathered, amongst others, *Anictangium ciliatum*, *Trichostomum lanuginosum*, in dense bosky sheets, overspreading the smaller rocks; *Bartramia pomiformis*, *Encalypta ciliata*, *Dicranum scoparium*, (with several varieties,) *Lecanora ventosa*, and other common lichens.

As we have already remarked, the vegetation was gradually diverging from the type of the plain, and at every step giving indications of our increasing elevation, the order of the predominant plants as we ascend is as follows:—*Briza media*, *Melampyrum pratense*, with flowers much modified, both in size and colour, from their brethren of the plain, being smaller, and of a lighter tinge; *Habenaria viridis*, *Juniperus communis*, *Narthecium ossifragum*, *Eriophorum vaginatum*, *Salix fusca*, scarcely appearing above the long heath, (*Calluna vulgaris*,) *Lastrea Orcopteris*, perhaps the commonest of our Shield Ferns in such localities, *Polypodium dryopteris*, *Pyrola*

minor, *P. media*, and *P. rotundifolia*; of the latter species we saw but few plants—a matter of some regret to my companion, who had not up to this time seen it in the district. Still further up we found *Rubus chamaemorus* mostly out of flower, but on that account no less beautiful, as all who have seen its ruddy fruit can testify; it ascends the hills almost to their very summits, which it is, perhaps, only prevented from doing, from physical causes, as the want of proper soil.

In the damper hollows, often among *Sphagnum*, which was also incrustated with a leprous-like lichen, and sheltered many strange *Jungermannia*, we gathered *Bryum rostratum*, *Bartramia fontana*, *Carex pilulifera*, *Epilobium alsinifolium*, *E. alpinum*; while drier places of the same nature afforded us the puzzling, though beautiful, *Cornus suecica*, *Vaccinium uliginosum*, which is very rarely indeed found either in flower or fruit; *V. oxycoccus*, a plant which in beauty yields to none—not even the fair *Linnaea*—of all that rewarded this day's very successful forage. The heath now began to be very stunted, and at length gave up the struggle for existence, as we neared the summit, which is a flat extent of quartz rock, profusely covered with fragments of the same formation, affording a home to a rather numerous family of lichens, such as *Cetraria nivalis*, in compact yellowish white tufts; *C. Icelandica*—its more sprawling relative; *Cladonia rangiferina*, *C. uncialis*, *Gyrophora proboscidea*, *G. erosa*, *G. cylindrica*, *Cornicularia lanata*, *C. tristis*, (with *apothecia*,) with *Cladonia vermicularis*, an eccentric lichen enough, for it rejoices in no apparent point of attachment to the ground or any other surrounding object, and yet finds means to retain its footing on this weather-beaten summit, in spite of wind and weather, but not, let me add, of the often greedy hands of the collector. I cannot here dilate on the magnificent view that now rewarded our exertions, but hasten to a neighbouring hill, a little to the south, where we find nothing new but *Gnaphalium supinum*, and a change of formation to the mica schist, containing small garnets, and indicating our approach to a new district, that of Glen Callater, which forms in many respects the connecting link between this district and the adjoining one of Clova. But we proceed no farther in this direction, as it is time we should think of our return, and accordingly we choose a path leading round the back of the hill, and thence almost directly to the Carr Rocks, which, running almost parallel with the river, form the northern exposure of Morrone.

As we jogged down the now somewhat rapid descent, we took an occasional glance among the thick patches of *Cetraria Icelandica* for its apothecia, nor were we wholly disappointed; they seem to occur on a variety with a broader thallus than that generally found. It was on this hill that Professor Graham, in 1821, collected the first British specimen of this interesting lichen in fruit. By the sides of the streams we gathered *Carex*

pallescens, *C. pilulifera*, *C. capillaris*, *Juncus triglumis*, and *Melica nutans*, On the damp sides of a rocky linn appeared *Grimmia apocarpa*, *Tetraphis pellucida*, *Hookeria lucens*, in fruit, while by the purling brook appeared in sunny patches the star-shaped *Saxifraga aizoides*. Be it remembered, however, that by this time we had re-entered the belt of birch trees, formerly noticed, and were now scrambling from one bank to another, culling the gems of varied hue and shape that everywhere rose from their thyme-scented sides—pleasure which was doubly enhanced by the genial warmth and balmy softness which the declining sun shed everywhere around. We have neither space nor ability to paint the charms of the many gems that here, as elsewhere, invited our attention. I give the following as a few there jotted down in my note-book:—*Epilobium angustifolium*, *Rosa spinosissima*, *R. canina*, *Alchemilla alpina*, *Linnaea borealis*, *Pyrola secunda*, *Fragraria vesca*, *Asperula odorata*, *Vicia sylvatica*, *Sanicula Europæa*, *Trientalis Europæa*, *Hypericum pulchrum*, *Carex fulva*, *C. flava*, *Polystichum lonchitis*, *Polypodium dryopteris*, *P. phegopteris*, *Botrychium lunaria*, *Weissia incurvata*, and many common *Hypna*, etc.

Our next excursion was to a wilder and more distant locality—Ben A'an and part of Ben-na-board, the former of which may easily be recognised, looking north-east from the village, as a long triple-crowned ridge, bounding the view in that direction; the peaks, which are so characteristic of it, even at great distances, being at almost equal intervals from each other—the latter as a mountain rising to the north of Ben A'an, and apparently somewhat higher, though they both fall little short of three thousand nine hundred feet. The first step, of course, in our progress will be to ford, or be ferried over, the river,—we adopt the latter alternative, having for our ferryman no gloomy Charon, but a young bare-legged and kilted Highlander, who did his work right manfully, not forgetting, of course, to levy the accustomed obolus; for all ferrymen, both in times *mythological* and times *practical*, (as ours pre-eminently are,) have considered this the most agreeable part of their labours.

We are now on the Invercauld side of the water, and observe the following plants in the meadows:—*Parmelia olivacea*, on the alder and other trees, with its broad shield-like fruit in fine condition; *Trichostomum canescens*, *Carex ovalis*, *C. pallescens*, *C. ampullacea*, (in ditches;) nor does the headlong scramble of the rabbits (*Lepus cuniculus*) to their holes detract from the interest of this part of our walk, which we now leave for Glen Candlick by a bridge, near which grows a tree of *Salix phylicifolia*. Up this glen, then, for some distance we go, collecting, among other plants, gorgeous specimens of *Epilobium angustifolium*, *Briza media*, *Melica nutans*, *Avena pratensis*, *Molinia cærulea*, *Carex binervis*, *Drosera rotundifolia*, *Gentiana campestris*, (a variety with white flowers.) Nearly opposite a sturdy

poplar, (*Populus tremula*,) the largest indigenous tree of the kind we had seen, we again strike off at right angles from our former line of march, and make directly for the Craigendals, which lie right before us. But in our course thither we encountered several notable things, which must be duly registered; and first, a heronry, of small size, situated in a clump of birches to the left of our route; its occupants, or rather those who remained over the summer at it, were apparently all intent somewhere in their piscatory avocations, as we saw none at this time, though we certainly heard one, as it flew overhead at night, uttering its peculiar cry. No less worthy of notice were the beautiful Fritillaries, (*Argynnis aglaia*,) that flew from flower to flower, sucking their honied sweets, and one is sorely tempted to clutch the pretty creature, as it sits so temptingly on this fox-glove close at hand,—but no, we have been too eager.

“Elate towards heaven the beauteous wonder flies,
And leaves the mortal wrapt in deep surprise.”

Although thus coy, in the bright sunshine, it is quite an easy matter to box a few specimens when the sky is overcast, in a rather dull day, for then they appear very languid, and fall an easy prey to the collector.

Keeping in view a stone on the Little Craigendal, bearing a fancied resemblance to a sheep, and around which the principal object of our search is said to grow, we ascend in a slanting direction, collecting as we go, *Salix arenaria*, *Apargia autumnalis*, *Carex stellulata*, *Polygala vulgaris*, *Lysimachia nemorum*, *Betula nana*, with numerous catkins, which are rather rare; *Toffieldia palustris*, *Lychnis Floscuculi*, *Festuca ovina*, var. *vivipara*, *Listera cordata*; and, less pleasant specimens perhaps, by mistake, as I was drinking at a stream, two specimens of the small lizard, common in such situations, (*Zootoca vivipara*.) The one I wished to appropriate was soon minus a tail, and on my return at night was minus altogether, as he was nowhere to be found, notwithstanding the most diligent search.

The hills of “Muckle,” and “Little Craigindal,” separated from each other by Glen Gairn, (at this point of no great width,) possess few features in common; the one, a debris-covered, rounded, uninteresting mass, apparently incapable of supporting a very scanty vegetation; the other being (at least on its northern exposure, with which a botanist will have most to do) a terraced wall of rock, rising almost perpendicularly from the glen below, and sheltering in its many verdant nooks a rich assortment of alpine plants. Without enumerating many species already incidentally noticed, we give *Veronica alpina*, *Saussurea alpina*, *Potentilla alpestris*, *Cerastium latifolium*, sparingly among loose stones; *Dryas octopetala*, a perfect mountain jewel, alike in flower and seed, in both of which states we found it, covering considerable patches of ground; *Habenaria viridis*, *Saxifraga*

oppositifolia, *Salix myrsinites*, *Carex capillaris*, *C. rupestris*, (or something very like it, though we have occasional misgivings that it may have been nothing but an alpine condition of *C. pulicaris*.—I should be delighted to have the opinion of some abler botanist than myself on this point;) *Lycopodium selago*, *L. alpinum*, *L. selaginoides*, *L. clavatum*; nor must we omit the chief object of our search—*Astragalus alpinus*, which, sure enough, we found, profusely mixed with the greensward over a space of considerable extent;—alike acceptable from its rarity, (this being its second British station,) beauty, and fragrance.

Descending, as best we may, from our elevated position, we find more stable footing, first, in a rude pathway, common among these hills, and known as deer-paths, and ultimately for some distance along another path, boasting alike of monarchial usage—not this time, however, that of the antlered monarch of the hills, but of the Sovereign of these “fortunate isles” of the western wave, over which she lords it with sway so gentle, yet so gracefully commanding.* Diverging, however, alike from our new-found path, and the uncalled-for digression to which it has given rise, we commence in earnest the ascent of Ben-A’an—a task of no great difficulty if you go about it judiciously. I question much if the course we adopted would entitle our being ranked among the judicious, where an easy ascent is the only *desideratum*; but having certain other objects in view, and the “Burn of Essie” (“of Falls,” as the keeper, whom we here met, informed us,) presenting every appearance of at least in part satisfying them, we must not repine at our rugged road to the summit. The Burn of Essie may be described as a succession of waterfalls, varying from ten to twenty feet in height, and reaching from the top to the bottom of the hill, dashing from ledge to ledge of well-smoothed granite in headlong sheets, now collecting its spent energies before it shoots over the next fall, in some quiet pool of crystalline transparency, at the bottom of which used to be often found the better description of Cairngorums, namely, those (in the opinion of the keeper) that are of a greenish hue. On its sides we observed *Cochlearia officinalis*, (var. *Greenlandica* being somewhat less common,) *Lastrea oreopteris*, *Polypodium alpestre* in great abundance; a solitary specimen of the mountain ash—the *rodlin* of most potent efficacy in warding off all and sundry attacks from the so-called “good folk” of our Highland glens—the *Pyrus aucuparia* of more learned society; *Veronica alpina*, *Viola canina*, and *Caltha palustris*.

Having duly prepared, by a hearty luncheon, for an effort which should take us at once to the top of the hill, we soon reached a large patch of snow, from an opening in which, amidst a cloud of spray, or, to use a

* Her Majesty, on one occasion, ascended to the summit of Ben-na-bourd by a bridle-path, made by her command, along Glen Gairn, and a good way up the mountain.

more expressive word, *reck*, (which is used in Scotland alike in reference to the smoke of a chimney, or the spray of a cataract,) the stream, along whose course we had been clambering, emerged. Into this strange cave we penetrated for some distance, and found its chief attraction to be in its roof, which was curiously and fantastically scooped out, and of alabaster whiteness. On the summit itself we witnessed another of those scenes which are only to be seen on our higher mountains—a herd of the noble Red-Deer, (*Cervus elaphus*,) feeding leisurely on a grassy glade opposite us, headed by their majestic but wary leader. They continued thus for some time, and gave us an opportunity, through an excellent glass, of observing the various movements of both old and young among them, till their delicate sense of smell, (for they could hardly have seen us, ensconced as we were behind a huge stone,) gave intimation of our proximity, when they disappeared over the ridge on which they were feeding, at an easy trot, their antlers, as they sunk from view, appearing like the dismantled branches of a thicket in winter.

“Magnificent creature! so stately and bright!

In the pride of thy spirit pursuing thy flight;
For what hath the child of the desert to dread,
Wafting up his own mountains that far beaming head,
Or borne like a whirlwind down on the vale;
Hail! king of the wild and the beautiful!—hail!
Hail! idol divine!—whom Nature hath borne
O'er a hundred hill tops since the mists of the morn,
Whom the pilgrim, lone wandering on mountain and moor,
As the vision glides by him, may blameless adore.”

PROFESSOR WILSON.

Luzula spicata, *Statice Armeria*, and *Juncus trifidus*, we found abundantly, with *Azalea procumbens* still in full flower, enlivening with a pinkish blush its dark evergreen leaves. The peak itself forms a good example of the gradual decomposition of the granite, being composed of broad tabular masses, here and there overlapped by other masses, bearing no unapt resemblance to the toppling layers of an overflowing bumper. *Carex rigida* and *C. vaginata* formed the prevailing herbage at its base, with [here and there thick and pretty tufts of *Silene acaulis*, creeping, moss-like, over the stones, and substituting for their otherwise dull livery of lichens a suit of its own tiny pink blossoms. In marshy places we found *Aira alpina*, and many specimens of an elegant viviparous variety, *Saxifraga stellaris*, *Viola palustris*, *Jungermannia julacea*, *J. ciliaris*, *J. juniperina*, and *Conostomum boreale*.

In these mountains *Lepus variabilis* is of common occurrence, and one of these creatures we pursued for some distance, as its curiosity so far got the better of its fear, as to permit us to come at times to very close quarters. We may remark of a very extensive tract of greensward near

this point, that the herbage consisted chiefly of *Nardus stricta*, *Carex rigida*, and *Scirpus cespitosus*. Descending a round gravel-covered shoulder of this hill, we crossed a stream at its base, on the banks of which we gathered that beautiful lichen, *Solcérina crocea*.

We were induced to climb part of Ben-na-bour, which rises to the west of the stream we had just crossed, from the prospect which a ridge of dripping rocks, covered with a patch of yet unmelted snow, afforded of producing *Saxifraga nivalis*; in this we were disappointed, but found in its stead abundance of *Bryum Ludvigii* in fruit, in which state it is said to occur but at rare intervals. It spread over the whole surface of the wet and gravel-covered declivity, and seemed to have sent up its whole armies of bright green capsules, just as the superincumbent snow had gradually receded, and left it free to be acted upon by the summer's sun. *Polytrichum septentrionale* was gathered more sparingly. Our journey down this glen towards Glen Candlick, from which we had started in the morning, afforded many interesting sights—huge masses of rocks, of the size of ordinary Highland huts, toppled at some distant date, from the wild hills around us; a beautiful fall, with the water falling over three distinct ledges; a glimpse—all the grandeur from the approach of twilight—of the dark corry of Ben-na-bour, and the snow-streaked walls that gird it. A few *Splachna*, of species afterwards to be mentioned, lay on the more beaten paths.

To pass over the numerous theories that have been started to account for the deposition of wide tracts of peat, and the no less interesting question, how many of our ancient pine forests have come by their end, and left but their blasted skeletons behind without a younger progeny springing up in their place: the theory, or rather tradition, prevailing among these mountains, as to the latter fact, is of too strange a nature to be omitted:—

Once upon a time, there reigned over this “land of the mountain and the flood” a king and queen, who must be nameless, as our informant honoured them with none; however his majesty seems to have prided himself, perhaps justly, on the extent of his umbrageous forests, and the abundance of the noble game to which they afforded shelter. Be this as it may, he could not always enjoy them without interruption, for the cares of state, or the din of war, called him at one time for a lengthened period from their vicinity. On his return he was ungallant enough to inquire after the welfare of his forests, before he bestowed a thought on, or asked a similar question, regarding the gracious but vindictive lady, his queen, who instantly fired with *burning* jealousy at these new objects of her lord's affections, ordered them to be burned without remorse:—and here assuredly stand their scorched and broken stems, in many instances retaining their original position, with their roots firmly set in a coarse soil, which the peat now overlies.

It will afford me much pleasure to supply, to the best of my power, parties with whom any of the plants already noticed, or afterwards to be noticed, as occurring in the Mona-Rua and Lochnagar groups, may be *desiderata*, with the specimens still in my possession.

(*To be continued.*)

CONTRIBUTIONS TO THE ICHTHYOLOGY OF BANFFSHIRE.

BY W.

(*Concluded from page 210, vol. v.*)

THE *Salmon*, (*Salmo salar*.) forms valuable fishing in the Spey and Deveron.

Grey Trout, (*Salmo eriox*.)—"Bull Trout." A pair was caught two years ago in the Deveron.

Salmon Trout, (*Salmo trutta*.)—"Tinnock." Quite common.

Common Trout, (*Salmo fario*.)—This is abundant in all the streams in the county. It varies very much in colour, according to the water it inhabits.

Herring, (*Clupea harengus*.)—The Herring-fishery forms what the fishermen appropriately call their 'harvest.' During the other seasons of the year much of their time is spent in preparing for it. The women and younger members of the family are employed during a great part of winter and summer in mending and weaving nets, while the men during the spring and summer months are engaged in overhauling the boats, and 'barking' the nets and sails. The engagements they may make, the stations at which they may fish, the success they may have, form the subject of a great part of their conversation when together, and when alone of their thoughts, their hopes, and their fears. They depend in a great measure on it for their subsistence; they run up accounts with their merchants from one fishing to the other; if the fishing is defective, all their golden expectations are disappointed, and a hard winter follows; if the fishing is prosperous, old debts are cleared off, the children are newly clad from top to toe, and sent to school during the winter months, and the spare money is either deposited in the bank, or expended in building a house; for every fisherman has the laudable ambition of having a "biggin o' his ain;" marriages are celebrated in numbers, and come off with great *eclât*; altogether the close of a successful herring-fishing is a time of great festivity and rejoicing with the fishermen. But it is not advantageous to the fishing population alone; it affords occupation to great numbers of women in salting and curing herrings, to the carters in driving them to the curing-houses, and in taking the nets to and from the fields. A fishing-station during the season is a

busy scene, although it may not be very agreeable to the olfactory nerves of a person that is rather-fastidious.

Leach's Herring, (*Clupea Leachii*.)—“There can be no doubt that the Herring which is to be met with almost every winter in the Moray Frith, in small numbers, is the one noticed by Yarrell under this name.”—*Rev. G. Gordon*.

Sprat, (*Clupea sprattus*.)—“Garvies.” This is not so common on the Banff coast as farther up the Frith, where, during some seasons, it is caught in great abundance. During last autumn they were taken in cart loads to Inverness: they are used as bait.

Twaite Shad, (*Alosa finta*.)—“Rock Herring.” Several of these have been found.

Cod, (*Morrhua vulgaris*.)—“Keelin,” or “Codlin.” This forms a very productive fishing: the usual method of fishing is by the line. Some time ago, the fishermen sailed with them, when cured, to the markets on the east coast, such as Aberdeen, etc., but this is now rendered unnecessary. On such occasions, the ‘gain sooth,’ as they called it, they were in the habit of bringing back a deal of stoneware with them; for all of them have a very strong propensity of having their ‘bench’ or ‘benches’ well stocked with all sorts of plates, cups and saucers, etc. A fisherman’s house is quite a display in this line.

Haddock, (*Morrhua æglefinus*.)—This constitutes the chief fishing through the whole year, except during the “Herrin’-time,” and then it is pursued by old men and boys, who are unfit for the heavy work of the Herring Buckie, famous for its Yellow Haddocks, is situated in Banffshire. The mode of curing the Haddock is as follows:—The fish is split up, and laid in salt for twenty-four hours or thereabout; it is then taken out of the salt and allowed to dry for a little, or, as they call it, ‘to dreep;’ it is then hung in the smoke of wood. In many places they have small smoking houses, but in the poor and less refined houses they hang them in the chimney. Formerly they were carried by the women, in creels, into the inland districts and towns, and disposed of either for money or barter, in the shape of meal, potatoes, etc.; they left the fishing villages very early in the morning, so that they were far inland before day-break; they went in crowds of ten, twenty, thirty, and more; and commonly sung their peculiar sea songs to beguile the weary way. A happy, merry, noisy crew they formed; the sight of such health, happiness, mirth, and honest industry made one’s heart glad. For some time past there has prevailed a great scarcity of this valuable fish, but during last autumn they appeared in much greater numbers, but of small size.

Bib, (*Morrhua lusca*.)—Has been found at Gamrie.

Power Cod, (*Morrhua minuta*.)—This little fish was first observed in the

Frith in the end of 1853. In January, 1854, I obtained it in great numbers.

Whiting, (*Merlangus vulgaris*.)—Abundant.

Coal-fish, (*Merlangus carbonarius*.)—This fish is distinguished by the fishermen by three different names, according to its age. For the first year it is called "Gerrack," and forms excellent sport for the young fisher, who may be seen with eager eyes and strained neck stretching from the jetties and piers, and the sides of ships and boats, hooking them with his rude tackle as fast as he can throw it into the water. During the second year it goes by the name of "Saithe." At the end of the second year, it removes seaward, and then bears the name of "Coal-fish," or simply "Coal."

Pollack, (*Merlangus pollachius*.)—"Lythe." Common.

Hake, (*Merluccius vulgaris*.)—A few are commonly caught in the Herring nets, which they very much injure. On the 24th. of August, 1854, a very fine specimen was brought me. If I might be allowed to say anything of it as a fish for the table, I consider it "very dry."

Ling, (*Lota molva*.)—This is not so abundant as the Cod. They are cured in the same way as the Cod, and sell at a higher 'figure.'

Three-bearded Rockling, (*Motella tricirratus*.)—Has been found at Gamrie.

Five-bearded Rockling, (*Motella quinque-cirrata*.)—Common.

Torsk, (*Brosmus vulgaris*.)—This fish is very rarely met with.

Lesser Forked Beard, (*Raniceps trifurcatus*.)—On the 1st. of December, 1854, a beautiful specimen of this fish was sent me by Mr. Andrew Paterson, a most obliging intelligent young fisherman. It had been cast ashore during a heavy gale of wind from the north, and was found by a cat. Some fishermen saw the cat bearing away its prize, and rather astonished at the unusual appearance of the fish, gave chase, and poor puss was forced to drop its lawfully gotten prey. Some of them took it for a young Torsk; but when brought me, I immediately identified it as the Lesser Forked Beard. It agreed in every respect with Yarrell's description, except that the lateral lines were continued in a curved direction along the head, met on the nose, and thus formed on the head a kind of oval. I regret to say that I lost it; I carefully wrapped it in damp paper, and laid in on a table in my 'sanctum;' but conceive my disappointment when, next morning, I found only the head remaining. Alas! it came by a cat, and it went by a cat. It was away, and there was no use in fretting; I consoled myself with the hope that I should soon find another one.

Plaice, (*Platessa vulgaris*.)—"Plask-Fleuk." Very abundant.

Flounder, (*Platessa flesus*.)—Most abundant.

Common Dab, (*Platessa limanda*.)—"Grey Fleuk." Abundant.

Lemon Dab, (*Platessa microcephala*.)—"Sole Fleuk." Common.

Long Rough Dab, (*Platessa limandoides*.)—As far as I can learn, only

one specimen of this has been observed. I obtained it in the spring of 1854. ("The Naturalist," vol. iv., page 190.)

Holibut, (*Hippoglossus vulgaris*).—Common.

Turbot, (*Rhombus maximus*).—"Rawn Fleuk." Common. It is fished for with the hook; one was taken during last spring in the Salmon nets, at Gallachy, parish of Rathven, that would vie with Domitian's famous monster; it measured six feet in length, four feet in breadth, and of proportionate thickness: it weighed two hundred and twelve pounds. *Piscatorum consultum* ordained that it should be sent to London. It was accordingly packed in ice and sent by the first steamer.

Brill, (*Rhombus vulgaris*).

Muller's Top-knot, (*Rhombus hirtus*).—On the 22nd. of September, 1854, I obtained a specimen of this beautiful fish from Mr. W. Lyall, another of my friends. It was of a much darker colour than that represented in Yarrell. The Rev. G. Harris has also found it at Gamrie; his specimen was likewise very dark.

Sole, (*Solea vulgaris*).—Quite common.

Solenette, (*Monochirus linguatulus*).—On the 18th. of June, 1854, I received a very fine specimen of this little fish. It was hooked in about eleven fathoms with a soft bottom, and was of a pale yellow colour. Another specimen of a large size has been obtained by the Rev. G. Gordon, on the Morayshire coast.

Bimaculated Sucker, (*Lepidogaster bimaculatus*).—A boy that was collecting for me among the boats after their return from the fishing, found one of these in a boat. When put into a basin of water it swam about for some time, and then firmly fixed itself to the side, so that it required a little force to separate it. It died in a short time.

Lump Sucker, (*Cyclopterus lumpus*).—"Paddle Cock," "Paddle Hen." Frequently found among the rocks.

Montagu's Sucker, (*Liparis Montagu*).—A single specimen was got by Mr. T. Edward, in 1854.

Sharp-nosed Eel, (*Anguilla acutirostris*).—Common.

Conger, (*Conger vulgaris*).—"Hadvæl Eel." A few are caught occasionally in the Salmon-nets. The fishermen have a dread of them, as they are possessed of such strength, and are so difficult to kill. They say their bite is dreadful.

Anglesea Morris, (*Leptocephalus Morrisii*).—Mr. Harris has obtained it at Gamrie.

Sand Launce, (*Ammodytes lancea*).—"San' Eels." This is abundant, and often used as bait.

Great Pipe Fish, (*Syngnathus acus*).—I have obtained two specimens. Others have also been found.

Straight-nosed Pipe Fish, (*Syngnathus ophludian*.)—Has been found at Gamrie, by the Rev. G. Harris.

Worm Pipe Fish, (*Syngnathus lumbriciformis*.)—Has been obtained at Gamrie, by the Rev. G. Harris.

Short Sun Fish, (*Orthogoriscus Mola*.)—Has been taken at Trouphead, near Gamrie.

Oblong Sun Fish, (*Orthogoriscus oblongus*.)—It is doubtful whether this fish has been found on the Banffshire coast. An old fisherman told me that his boat was once pursued by a Sun Fish. They cast stones at it, and used every means to frighten it from the boat, but to no purpose; it stuck to them for a considerable time, and then left of its own accord. The good old man declares "he never got sic a fleg a's life." From his description it appears to have been the oblong Sun Fish. A specimen was obtained a few years ago at Burghead, in Morayshire. It was three feet in length.

Sturgeon, (*Accipenser Sturio*.)—"In the years 1833, 1836, and 1844, specimens of the 'royal fish,' were caught on the south side of the Moray Frith."—Rev. G. Gordon.

Small-spotted Dog-fish, (*Scyllium canicula*) "Blin' Hac." I have obtained a good many specimens.

Blue Shark, (*Carcharias glaucus*.)—In the month of September, a Shark, said to be the Blue Shark, was caught in the herring-nets. I did not see it, and therefore cannot positively say whether it was this Shark or not. The fishermen seemed to have no doubt of it.

Porbeagle, (*Lamna Cornulicæ*.)—Has been seen on the coast.

Piked Dog-fish, (*Acanthias vulgaris*.)—This Fish is most abundant and most destructive both to the herring and to the nets. They are used as manure, although some are cured by being dried in the sun. They are said to be of a strong oily taste.

Greenland Shark, (*Seymnus Borealis*.)—At Trouphead.

Spinous Shark, (*Echinorhinus spinosus*.)—One has been found at Gamrie.

Sharp-nosed Ray, (*Raia Oxyrhynchus*.)

Skate, (*Raia Batis*.)—Common.

Thornback, (*Raia Clavata*.)

Starry Ray, (*Raia radiata*.)—In the month of May, 1854, I obtained a very beautiful specimen of this pretty Fish. The Rev. G. Harris has found it at Gamrie.

Lampern, (*Petromyzon fluviatilis*.)—"Lamper Eel." Common in many of the streams.

Myxine, (*Gastrobranchus cœcus*.)—"Eelast." Very common. All I have seen were taken on the lines. They are objects of disgust to the fishermen.

Macduff, February 23rd., 1856.

Miscellaneous Notices.

Anecdote of a Dog.—I had a hen sitting on some Ducks' eggs; when she hatched, she did not seem to like the appearance of the new-comers at all; to use the servant's language she "could not abear them;" so they were taken from her, and put into a basket, and fed and attended to for a time in the kitchen. There a little dog, a sort of half-bred Skye terrier, followed them and laid down close to the basket; after awhile she got into it, and curling herself round, took as much care of the Ducks as she could; taking them up from time to time in her mouth, very gently, and putting them into their right places, but they were very restless and intractable, crawling through her long hair and over her back in all directions; we therefore took them from her. It is more curious from her not having had any puppies for two or three years, and she is an inveterate vermin hunter, and at first we feared that she meant to kill the Ducks, mistaking their piping for vermin.—H.

Instinct of Animals.—In the July No. of "The Naturalist," in the "Chapter on Instinct," reference is made to the instinct of the Dog. I send the following which occurred to myself as corroborative of the above. I was walking, some weeks ago, in a neighbouring town with a friend, who was accompanied by a small half-bred Italian greyhound. As we approached a large factory the dog all at once started off at a tangent, running through a gentleman's grounds and meeting us again at some distant point. I remarked upon the conduct of his dog to my friend, who told me that the dog generally did so if he were walking with it at the time the factory hands were coming out, as was the case in this instance. He said the "hands" had jeered and laughed at the little dog sometimes, and since then it always made a bend out of the main street in order to avoid meeting them. Surely here was an instinct approaching to *reason*. We were not near the mill at the time, but a street from it; but the dog evidently remembered the circumstance of the mill hands laughing at him, and therefore to avoid the like occurrence, acted in the manner I have described.

To the above I will also add a similar case of instinct on the part of a cat belonging to myself. On July 19th., we had shut the house up, all being out for a time, leaving only a small window open for Mr. Tom to enter or not as he pleased. About eight in the evening I was coming home through the fields adjoining my garden, when whom should I meet but puss himself, who thereupon began to mew and run before me, evidently expecting me to follow. In fact it was just the time when he had his allowance of new milk, and no one being at home he had come into the fields, not indeed expecting to see me, but because the servant had been

in the habit of going down those fields; and puss argued that she might be there now, and hence had come hoping to meet her, that she might give him his usual evening allowance. It may be impossible to describe what instinct really is, but I think it scarcely can be denied that animals do in some degree possess a certain power of reasoning.—JOSEPH B. GRANT, Oxenhope Parsonage, August 9th., 1856.

I wish all correspondents would give the English name as well as technical one, of whatever plant or insect, etc., they may be writing about. It would be a boon to persons like myself who only know "the beginnings" of natural history.—Idem.

The Nightingale.—Having noticed some remarks on the sociability of the Nightingale, in Mr. Twinn's very interesting article, which appeared in the last number of "The Naturalist," I beg to offer the following account of some facts relative to that bird, which came under my notice in the spring of 1855, in the neighbourhood of Toubridge, in Kent. I happened one day, while in the garden, to throw something into a low box-tree which grew at the distance of about twenty yards from the house, which was close to the high-road, when I was startled by a bird flying out in that peculiar manner which is usually seen in the hen bird when disturbed while sitting, and on going to the bush I found a Nightingale's nest, containing four young birds, partly fledged, and one addled egg, which last I removed. After this I paid daily visits to the nest for about ten days, during which time I frequently observed the old bird sitting; when, one morning, I found the nest empty, and I was half afraid that the young birds had fallen a prey to cats or to hands less scrupulous than mine; but as I afterwards saw a pair of Nightingales with several young ones constantly about the garden, I doubt not that they were the same and had merely left the nest sooner than I had anticipated. During this time as well as afterwards, a Nightingale would generally remain during the greater part of the day, as well as in the evening, singing most beautifully, and without any sign of fear, on a branch of a Magnolia, (*Magnolia conspicua*,) within three or four feet of a window, close to which my brother was usually sitting. I may here observe that we had in former years heard Nightingales singing night after night in some trees on the opposite side of the road, and that I had found an empty nest the summer before in the same bush where I now found the young birds and egg, and one in a similar bush near the other, but had failed to recognise them as Nightingales' nests till I saw that with the young and egg. As we removed from Toubridge in the autumn of 1855, I have not been able to ascertain whether they returned this year.—H. B. S., Kensington, August 22nd., 1856.

Java Sparrow.—A good specimen of the Java Sparrow was shot wild in the woods a few miles from here, in company with another of its species. It is the only one I ever heard of being shot, and I am confident it is a wild bird from its appearance, also from the circumstance of its having another bird with it. If it had escaped from any cage, it would have been alone; if the other had escaped with it they would have been sure to separate before they got into the woods; therefore I imagine there must have been a flight of them; this was shot by a boy, but he could not get near the other.—J. B. WATERS, Bird-stuffer, Rochester, August, 1856.

I have not the slightest doubt of the above-mentioned birds having escaped from confinement. If kept in a cage together they would naturally consort together afterwards. Birds are often seen in the most perfect state of plumage in large cages.—F. O. MORRIS.

Occurrence of the Rose-coloured Pastor, (Turdus roseus,) in Cambridgeshire.—A female of this rare bird was shot at Fulbourn, July 21st., 1856.—SAMUEL PARKER SAVILL, 13, Regent Street, Cambridge.

Hoopoe, (Upupa epops.)—On April 22nd., 1856, a specimen in adult plumage was shot at Great Thurlow, Suffolk: on dissection it proved to be a female.—Idem.

Notices of New Publications.

Preparing for Publication by Subscription. Price 5s. paper cover, or 7s. interleaved, bound in roan, *Jottings in Australia, being Notes on the Flora and Fauna of Victoria, with a Catalogue of the more common Plants, their Habitats, and time of Flowering*. By SAMUEL HANNAFORD, Esq., Author of "Flora Tottoniensis," and late Honorary Secretary of the Victoria Horticultural Society.

THIS little Work has been undertaken from the want which the Author feels assured others have felt in common with himself, on newly arriving in this country, of a Work which would afford some information, written in a popular form, relative to the more common BIRDS, INSECTS, PLANTS, etc., met with in their daily rambles. All that is published on the Natural History of Australia is scattered through the writings of Travellers, or written in the Latin tongue, which, however familiar to a skilled Botanist, is rather apt to damp the ardour of the young Student. These "JOTTINGS," it is hoped, will supply that want, as they will be published in a convenient form for the pocket, and *interleaved* to admit of copious Notes being made, and are intended merely as preliminary to Works of a more scientific character.

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BLUNDELL AND Co., 44, Collins Street West, Melbourne, or to the Author, at Warrnambool.

Review.

Insecta Britannica—Diptera. Vol. III. By FRANCIS WALKER, F.L.S.
London: LOVELL REEVE, Henrietta Street, Covent Garden. 1856. (Large Octavo size.)

IF the fame of Mr. Walker as a first-rate entomologist was not already firmly established, this work would secure it for him, replete, as it is, with valuable information, guarded by scientific accuracy. It is a most valuable production, the importance of which as a component part of the Natural History of the country cannot be over-rated. Every species is described separately in Latin and English, and that most fully, completely, and carefully.

I cannot say that I quite understand the author's meaning in the Preface as to the species described, but this is a minor fault, even if it be not more to be attributed to my own dullness of comprehension than to the author's obscurity of expression. The work itself cannot possibly be praised too highly. It is everything that a scientific book ought to be.

The Retrospect.

Having just perused the four last numbers of "The Naturalist," I meet with an article in the one for April, at page 84, headed "Moth Hunting, or an evening in a wood;" by Mr. Thomas Edward. This article is certainly throughout somewhat amusing, but the captures named by its author deserve especial notice. Mr. Edward asserts that he captured on one and the same evening the following Moths, namely, the Oak Egger, Unicorn Hawk Moth, Cream-spot Tiger, and Green Silver-lines. Now, this must have been, as he observes, a most wonderful take, and I am inclined to think that few, if any, who are but moderately acquainted with the habits of these several species will be ready to believe the same, for the following reasons:—The Oak Egger quits its chrysalis about the middle of July, and the males fly during the afternoon, seldom if ever moving about at dusk in the evening; the Cream-spot Tiger flies from nine or ten in the morning, seemingly to enjoy the full warmth of the sun; this species is in its perfect state from the middle of May to the middle or latter end of June, seldom occurring later in the season. The Green Silver-line flies in the evening, and the one known among collectors as the scarce one, comes forth in July, the common one in May, but both are very short-lived insects, being soon over and gone. The Unicorn Hawk

Moth is by no means a companion of any of the above-named, the month for its appearance in the winged state being September, and I have taken them good to the end of October. In the year 1846, I believe that several *Convolvulus* Hawks were taken as early as the last week in August, but this was noted as an exception, not the rule. In fact the summer of 1846 was exceedingly hot, and consequently produced several of the Insect tribe which were previously considered very rare or next to extinct, for instance, *Celerio*, *Galii*, and *Livornica* were taken in many parts of England, and *Atropos* and *Convolvuli* were abundant throughout the whole country. By the bye, the whereabouts these species hide for so many years, and then spring up so abundantly, would, I presume, be an amusing subject for inquiry, and doubtless would bring out some curious speculations. I should certainly suggest that Mr. Edward be further questioned respecting his statement, as truthful information must be insisted upon to secure the worth of "The Naturalist."—CORNELIUS WALFORD, Witham, Essex, August, 1856.

I cannot but express my agreement with the above remarks, but the writer must himself be mistaken as to *Livornica* being taken in many places.—F. O. MORRIS.

Exchange.

Botany.—WILLIAM SUTHERLAND, 18, Bon-Accord Terrace, Aberdeen, can supply the plants of the north-east of Scotland, including the best alpine ones in Flora.

Will any of the Norfolk readers of "The Naturalist" be kind enough to furnish me with small specimens of peat-earth for microscopical examination; being engaged in the study of the Diatomacea, I am anxious to obtain specimens of earths likely to contain them from different localities. I shall be most happy, in return, to send infusorial earths from any of the following localities:—Frazensbrunnen and Gossa, in Bohemia; Obara, in Luneberg, Germany; Thiergarten, Berlin; Bilin, in Bohemia; and Habichtswald, Cassel, Germany. Diatomaceous deposits from any locality would be extremely acceptable, and would meet with the best return in my power.—GEORGE HODGE, Seaham Harbour, August 21st., 1856.

The Rev. F. O. Morris has duplicates for exchange of *Callimorpha Hera*, from larvæ from Guernsey; *Vanessa C-album*, *Phragmatobia fuliginosa*, *Euthemonia Russula*, *Abraxas ulmaria*, *Fidonia piniaria*, *Argynnis aglaia*, *Arctia villica*, *Arge galathæa*, *Notodonta dictæa*, *Platypteryx unguicula*, *Syriethus alveolus*, *Melitæa Artemis*, *Melitæa Athalia*, *Steropes paniscus*, *Steropes comma*, *Thanaos Tages*, *Polyommatus corydon*, *Aplecta nebulosa*, and *Phlogophora meticulosa*. He wants fine *Diptera* *Orion*, *Notodonta trepida*, *Zeuzera æsculi*, *Erebica Cassiope*, and *Eremobia ochroleuca*.

Proceedings of Societies.

London Working Entomologists' Club. The Members held their usual Monthly Meeting on Tuesday, August 5th. There was an excellent show of Insects captured this season, amongst them were the Purple Emperor, White Admiral, High Brown, Dark Green and Silver-washed Fritillaries; six of the Skippers, Sieve Lackeys, Large Lackey, Flat Lackey, Orange Lackey, Dew Lackey, etc., with a host of fine larvæ, including the Death's Head, Oak Prominent, and Lobster.—JAMES GARDNER, Hon. Sec.

Obituary.

DEATH OF MR. YARRELL.

BY O. S. ROUND, ESQ.

WHILST the sheets of our last number were issuing from the press, the most able and distinguished of modern Naturalists breathed his last—William Yarrell,—a name associated with some of the most remarkable discoveries in modern Physiology, etc., known and respected even by those who were not professors of his beloved science. Mr. William Yarrell was born in 1782, in the immediate neighbourhood of the house at the corner of Ryder Street, St. James', where he passed almost the whole of his life; and where with his father, and afterwards in partnership with another gentleman, he carried on business as a newspaper agent, and which business he only disposed of a few years since. A lover of the country and rural sports, nature was his study and delight from an early period, and he made a valuable collection of specimens of Natural History; but it was not until the year 1829 that he became an author, and in 1840 was elected a Fellow of the Linnean Society, a connection terminating only with his life, and which appears to have commanded a very large share of his energies and talents, for almost his latest public act appears to have been the part he took in the Linnean excursion to Guildford, not many months since.

Mr. Yarrell was a bachelor, but by no means justified the charge of selfishness or moroseness, so commonly ascribed to that condition, being a great appreciator of the amenities of life, singing an excellent song, and distinguished for his social as well as literary qualities. In him the power of talent was remarkably exemplified, for, although he might be considered, strictly speaking, in trade, yet he mingled in the highest circles, formed one at the dinner entertainments of our first statesmen, as well as in the more scientific meetings of our literati. With the Zoological Society he was connected from its very commencement, and became eventually vice-

president and treasurer to the Linnean Society; and that the Royal Society did not enroll his name amongst its members, has always been considered to reflect no dishonour upon him, but on the contrary, to be deplored as a loss to that great body, through the short-sighted tyranny of some senseless formality.

The works which have chiefly distinguished Mr. Yarrell, are his "History of British Birds," and his "History of British Fishes," upon which it would be idle to say one word of comment, the public having awarded them their meed of praise. He was the discoverer (in conjunction with Mr. Jesse) of the fact that eels are viviparous, and the papers from his pen upon a variety of subjects, all connected with natural science, are as able as they are numerous; it will only be necessary to refer to a few of the most prominent. In 1829 he published "A description of a new species of *Tringa* found in Cambridgeshire," in 1830, a paper on the "Organs of Voice in Birds," and in 1833, "Observations on the laws which appear to influence the Assumption and Change of Plumage in Birds;" in 1835, an "Account of the *Apteryx Australis*," with "Some Observations on an Insect detrimental to Turnips." About the same time was written an article entitled "A Description of the Organs of Voice in a new species of Wild Swan," which was communicated to the Linnean Society. Mr. Yarrell then produced a paper entitled "A description of three new species of Fresh-water Fishes, of the genus *Leuciscus*," and in 1853 a paper "On the Habits of the Great Bustard." Most of the foregoing have been published in the annals of different scientific societies; and during the present year an able article from the same pen was published by the Linnean Society, "On the Influence of the Sexual Organs in modifying External Character."

It would exceed our limits even to refer to the various as well as numerous productions from the pen of this distinguished naturalist; suffice it to say that no *vexata questio* ever arose without some lucid and valuable observations being made by him upon it, and unlike many talented men, he was never led away by his fancy to advance anything, except upon the most careful investigation, and consequently his productions have the valuable quality of accuracy as well as style to recommend them. Among these instances, it may be mentioned that we owe to him the identity of the white-bait, and he had the honour of having his name attached to more than one newly discovered species.

A few years since Mr. Yarrell was attacked by severe indisposition, from which he apparently recovered, but it is probable that the enemy worked still within. Having gone to Yarmouth, he there expired suddenly, on Sunday the 31st. of August, of ossification of the heart, in the seventy-second year of his age.

"Peace be to his ashes."



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THE FLYCATCHER.

BY O. S. ROUND, ESQ.



I CAN date my acquaintance with this bird as long as memory serves me, and a very agreeable memory it is; our biographies seem so mingled, that, whether from the pleasure of these early associations, which invested him, in my eyes, with a peculiar interest, or that I really have always liked him, I cannot say, but certain it is, my pleasant ideas and a little bird watching for flies are ever in the same train of thought. Having premised so much, I hope I may be pardoned for entering somewhat into detail. As Defoe says, "I was born in London, and like a drooping plant, probably for want of fresh air, etc., was taken into the country for my health," and as the region to which I was transported was perhaps one of the most salubrious in merry England, to the west of Windsor Park, I very soon picked up, and it is likely owe my present existence to the visit. This I was too young to remember, but the consequence was that from that time I was the inhabitant of the same locality, until circumstances made it our home, and twenty years residence there produced and fostered those tastes for the beauties of Nature, which have procured me innumerable hours of innocent enjoyment, and laid a foundation which I love to build upon, and upon which, with every interval of rest from labour or anxiety, I find a refuge constituted of pleasures ever new and inexhaustible, for it is made up of the contemplation of those works "whose builder and maker is God."

It was a lovely May afternoon, warm and genial after a showery day, that we posted to, and arrived at our sylvan mansion; we had come from the neighbourhood of St. Pancras, and only imagine the change from dust and dirt, and din and darkness, to verdure and freshness, and perfume and purity; it was a change indeed, and I remember careering down our lawn with my little sister, and plucking white daises and yellow buttercups, and thinking how delicious it was, everything looked so very very clean, everything was so very very sweet, and pure, and fresh. It was an early season, and the trees formed a perfect bower of shade. It was a moment I never have forgotten, and never shall forget. Around our porch there clung a splendid woodbine, in full leaf and bloom, and I was not long in discovering that there were tenants in this bower, for ever and anon a little grey-looking bird would emerge from or fly into it. I suppose I had the natural love for the thing within me, for I remember the tumult of interested feeling which the discovery awakened, and before the summer was over I was very well up indeed in the habits of these little birds—need I say that they were Flycatchers?—the *Muscicapa grisola* of Linnæus, the *Stoparola* of our countryman Ray, the Beam Bird of English naturalists.

On the occasion I refer to, the nest was made, and the eggs laid, late in May; but as the same pair, I presume, built there for many successive seasons, I watched them place almost all the materials for their nest, and bring forth broods, over and over again. They were very tame, never being molested, except that I occasionally took a peep at the eggs or young, which they did not mind, and the nest was just over the door, where we were going in and out all day. How often I have sat learning my Latin lesson, and watching them bring small bits of wool, and roots, and moss, and fix and weave and mould it to their will; how I have observed that they always perched on the same twig, to await the time when we were not actually at the door to continue their architecture, how certain posts of vantage were invariably frequented by them from which to watch for and take their prey. Our lawn was then a sort of orchard, filled with fruit-trees, and certain boughs of these were always their resort. There they sat, the twig enveloped in their breast feathers, for their little dark legs are very short, and peering round with quick and scrutinizing eye in all directions, until they saw something, I suppose worth flying after, for the air was constantly filled with insects, and as they were not always catching, but only every two or three minutes, they must necessarily have exercised some degree of discrimination. Ever and anon they would attempt a noble prey, in the shape of a moth or butterfly, and it was curious to observe how they were sometimes for a moment baffled, and how they flew round and dodged what they could not at once seize, but he never escaped them; and when they were feeding their infant brood, all these prizes were spitted, as it were, upon the upper mandible of their bills, and made a perceptible bunch upon it, as you might easily perceive.

It happened in the case I refer to that there was a nice little ledge, upon which the nest was quite secure, and rendered still more so by a lateral branch of the honeysuckle, which well shielded it, as with a protecting arm. Indeed the position was well chosen; neither was it exposed to the sun's rays, as Gilbert White relates of some short-sighted songsters, who hovered all day over their young with outspread bills and gaping mouths to protect them from the heat, for here were plenty of green leaves, and everything indeed as long as they stayed, which was for several summers, went on very prosperously, and they usually brought out two broods each year. The eggs, which were ordinarily five in number, are not unlike those of the Redbreast, but smaller and more tapering, and the young, like most summer visitants, very speedily attained maturity, although occasionally one unluckily fidgetted until he fell from the nest, and in this way never survived to wing his way to other realms; and you may imagine, as a little boy, and with my feelings, what a lament was made over such an

accident. Occasionally my little friends would perch upon the balcony of the room where I slept, and you may suppose that I was as still as a mouse whilst I sat on the foot of my bed, breathlessly watching them quite closely; what a privilege! without disturbing them. These were happy hours. Give your children such a taste, the benefit is almost incalculable; only those who have experienced it can realize its extent.

Nor were their proceedings, when with us, the only interest that attached us to them; there were the mental speculations I indulged in, with reference to their journeyings to and fro, where they went, how they sped, etc.; and as the same pair, I verily believe, came to us each year, what became of the nine or ten young ones which they annually reared. All these were great sources of mental occupation, and then the anxiety with which, about the beginning of May, or end of April, I always looked for their return, and they were pretty regular, within a few days usually, and I fancied that they looked jaded and tired, but they soon recovered their good looks.

In after seasons we had many pairs of these birds, besides those I have adverted to, which bred on the ends of the plates of our outsheds and in holes of trees, and do so still, but the woodbine got old and died, and no nest has graced our porch for many a long year; but I have only to shut my eyes to realize the by-gone scene of my childhood, and there sits the little grey bird on the apple-tree, and as he flies towards the porch with his store of nicest food, methinks I still hear the sibilous clamour of his offspring, as he settles on the nest to distribute the meal.

Pembroke Square, Kensington, May, 1856.

A VISIT TO BRAEMAR IN 1855.

BY W. SUTHERLAND, ESQ.

(*Concluded from page 229.*)

GLEN Callater and Lochnagar, both stations of some note, lie in a different direction from the places we have already visited. They may be both most easily reached by following the course of the Clunie, the stream which divides the Castletown into two distinct portions, and is indeed the boundary between the two great proprietors in this district, until you reach the farm of Ahallater, where, turning to the south, you enter a narrow glen, which towards its upper end produces many of our best alpine plants in great abundance. The journey along the Clunie will perhaps present little of much interest to the mere botanical tourist, with the exception of the following plants, which are in general abundant about the village itself:—*Cnicus heterophyllus*, *Galium boreale*, *Oxyria reniformis*, *Myrica Gale*,

Galium mollugo, (Manse avenue,) *Chrysanthemum Leucanthemum*, *Alchemilla alpina*, *Briza media*, *Galium uliginosum*, var. *Witheringii*.

On our entrance into this glen we turned aside to examine the bed of the stream, which here empties itself into the Clunie, after traversing the whole length of Glen Callater. The rock was of mica-schist, with the dip presenting a very high angle. The winter torrents had in many places worn the strata into very grotesque shapes, and it appeared very questionable whether they had not been also instrumental in producing another equally strange appearance, though one by no means rare even in rocks of a more durable nature, as I have seen cavities of the same kind in various places along the Kincardineshire coast. I refer to numerous cylindrical cavities, smoothly and equally scooped out in the solid rock, and always at right angles to its exposed surface, whether in the current or considerably above it, and averaging five or six feet deep. In one of these, elevated above the course of the stream, a noble shield fern had found a home, and presented an appearance of no ordinary grace, as it waved its stately fronds, from this vase of Nature's modelling. This spot, if minutely examined, would produce a goodly list of cryptogamic plants, which find a congenial habitat in its shady recesses; as it was we fell in with *Lastrea Filix-mas*, *L. spinulosa*, and *L. dilatata*, throwing their broad fronds most lovingly over their more slender relatives, *Cystopteris fragilis*, with many of its varieties, as *dentata* and *angustata*, (many of the best specimens however being sadly mutilated by a minute fungus;) *Polypodium vulgare*, *P. phegopteris*, the pale foliage of which presented a good contrast to the darker tints of the others; *Merchantia hemispherica*, several forms of *Bryum caespitium*, *Andrea rupestris*, while at the base of the rocks producing these, spread the green turf, beautifully enamelled with the pale blue stars of *Veronica chamædrys*, blended, as they were, with the delicate leaves of another favorite of our summer rambles, *Oxalis acetosella*.

Oh! that all could see and appreciate this lovely spot, which, like many others in this district, appeals to the heart, not so much by any proud associations of by-gone days, or by the beauty or sublimity of surrounding objects, as by the chaste blending of Nature's prettiest and often tiniest gems—by the still small voice of the lowly moss, with perhaps its associations of African adventure and heroic devotion to science;—of the *Veronica*, with its petals painted—one is almost apt to think by a pencil dipped in the cærulean tints of a summer sky;—of the Ferns, luxuriating truly in but one absolute colour, but of it presenting innumerable shades, the coolest green. On the higher banks, as we again seek the road, we gather *Hieracium Lawsoni* and *Poa Balfourii*.

On the other side of the road we have now reached, is a ledge of rocks, toward which we now direct our course. In passing over the ground

between them and the road, we pick *Carex flava*, *C. stellulata*, *C. dioica*, *C. binervis*, *C. præcox*, *C. pulicaris*, *E. tetralix*, with white flowers, *Genista anglica*, *Listera cordata*, while at their base extend great beds of *Lastrea neopteris*; indeed we have nowhere seen it in more abundance, or (which may be said of all the Ferns we met with here) in finer condition; *Blechnum boreale*, *Polypodium phegopteris*, *P. dryopteris*, and *Lastrea spinulosa*. On the rocks themselves little of consequence was to be seen, except *Bartramia pomiformis* in great abundance, and *B. arcuata* less so, with *Hypnum complanatum* and *H. cupressiforme* both in fruit. Towards the summit the jet-black berries of *Empetrum nigrum* were in profusion, and formed, no doubt, a most delectable repast to a pair of Ring Ouzels, (*Turdus torquatus*,) which in wrath apparently at our unseasonable intrusion, or at their own rather dangerous proximity to a lawless depredator, whose species we could not discover, though we saw his inaccessible eyrie just below us, jerked constantly past us, emitting their usual querulous note all the time we were enjoying the beautiful panoramic view of the Braemar district, which we have from this point. So much struck were we indeed with its extreme beauty, as to fill two or three pages of our note-book with its principal features, which we shall not insult the reader by transcribing, as words and even colours, at least in unskilful hands, would but mar the picture—it must be seen to be appreciated.

We now pressed onwards, and soon reached Loch Callater, a beautiful sheet of water, upwards of a mile long, and I believe affording capital fishing, but certainly few plants, with the exception of *Lobelia Dortmanna*. Having reached the upper end of the Loch, the next point we make for is the Break-neck fall, which is now right before us, and is one of the prettiest objects in the whole neighbourhood. As seen from this point its appearance is that of a thread of silver dangling over perpendicular rocks, clad in a mantle of the freshest green, the result, no doubt, of the ever-descending spray. But at the same time it must be remarked that with a change of geological formation, the hills in this direction have much the appearance, and much the botanical character, of the Clova hills, with which indeed they are continuous, that is of a greener tint, and more rounded outline than those farther to the north, as may be seen even in the hill forming the eastern side of the glen at this point, which is characterized by its bare and rugged sides, here and there cut into chasms and water-courses, formed by the storms in winter, and by the vegetation, where it does occur in sufficient abundance to lend a character to the scene, being of the brownish tint of the dark heath.

We now find ourselves at the base of the fall, and taking it for granted that we must by some means or other reach the summit, commence the ascent, gathering as we go *Sedum Rhodiola*, *Geranium sylvaticum*, *Anemone*

nemerosa, (for both of which this is a considerable elevation,) *Saxifraga stellaris*, *S. aizoides*, and *S. hypnoides*. And now, by a sudden turn among the rocks, when about half way up, we are suddenly confronted with the principal leap in the cascade, which burst on us with something of a magnificent effect, as the sun, which had for some time been overcast, suddenly shone forth at that moment, transforming the thousand drops of spray into as many pearls of the brightest lustre, and all surmounted by a rainbow of great beauty. After this point the ascent began to be quite ladder-like, and was sometimes suggestive of no very pleasant ideas, as the objects in the plain began to dwindle so remarkably.

"Here's the place:—stand still.—How fearful
And dizzy 'tis, to cast one's eyes so low!
The crows and choughs that wing the midway air,
Show scarce so gross as beetles; half way down,
Hangs one that gathers samphire—dreadful trade!"

KING LEAR.

Now, if we did not gather the veritable *Crithmum maritimum*, or samphire of our noble poet, we gathered something equally to our taste, for everywhere in beds of the *Silene acaulis* crept the branches of that most beautiful willow *Salix reticulata*, with dark, shining, and beautifully-reticulated leaves, and rosy catkins; while in the barer parts grew *S. arenaria* and *S. myrsinites*. And now having reached the top, and thrown myself on the welcome sward from sheer exhaustion—a feeling which in such scenes soon wears off, I took a peep into the *corry* of Loch Kander, a little to the west, without, however, examining its sides, for want of time. In this place Mr. Croall has detected, among others, *Allosurus crispus*, *Salix lanata*, (on all hands regarded as the belle of British Willows,) *Alopecurus alpinus*, *Phleum alpinum*, *Saxifraga oppositifolia*, *Carex rupestris*, *Isoetes lacustris*, *Subularia aquatica*, and *Ædipodium Griffithianum*. Having picked up *Polypodium alpestre*, *Splachnum sphaericum*, and *S. vasculosum*, we prepared to make the best of our way down the glen.

If the tourist, on reaching Loch Callater, strikes into the path leading up the hill on the left, by a very easy ascent—made so expressly for the convenience of parties using ponies, a mode of ascending these mountains often resorted to—he will find himself in an hour or two, according to his speed, on the summit of Lochnagar. No such gradual slope can be obtained on the eastern side, for the position where he now stands is the summit of a solid wall of granite, shooting perpendicularly downwards for, in some places, a thousand feet. It may easily be supposed that from such a height, a commanding view of the surrounding country may be obtained; such is the case in a high degree, but it is not for us to occupy space in describing it. Near the summit we saw *Splachnum mnioides* and

S. angustatum, often in considerable masses, growing, as the habit of the genus is, in Deer's dung, or anything else that comes in the way; it is by no means particular, as some of the strange habitats Hooker has recorded testify; on stones *Parmelia Fahlensis* and *Cornicularia lanata*, on the ground a profusion of *Cladonia vermicularis*, *Salix herbacea*, and *Trientalis Europæa*, being a very high elevation for the last-named plant. Though it is a sheer impossibility to descend the cliffs themselves, still there exists at their northern extremity, a gully of considerable size, which is, or ought to be, invariably descended by plant-hunters. Here the accumulation of gravel and other *detritus* from the summit, is kept constantly moist, in common with the huge rocks, often split into colossal cubes that form its sides, and which, among others, produce the following plants:—*Cerastium alpinum*, *Veronica alpina*, *V. serpyllifolia*, var. *alpina*, *Poa alpina*, var. *vivipara*, *Saxifraga rivularis*, *Allosurus crispus*; and towards the base *Hieracium alpinum*, and others of that critical genus, *Polytrichum hercynicum*, *P. septentrionale*, *Oxyria reniformis*, *Rhinanthus Crista-Galli*, *Lychnis diurna*, *Gnaphalium supinum*, *G. sylvaticum*, the rare var. *β*. After again reaching the summit, by rounding a shoulder of the hill towards the north—gathering, by the bye, *Sibbaldia procumbens*—we met with nothing remarkable but a smart shower of hail, (August 2nd,) and for some time had to navigate our course most warily through thick mists, which unfortunately descended before we had reached the beaten path. We were disappointed in not finding *Carex leporina*, which was added to the British Flora from this locality some years since.

In visiting Ben Macdhui, the pedestrian traveller requires the greater part of two days, not only from its distance from his head-quarters, but also from the nature of the ground over which he has to pass. The earlier, then, he starts in the morning the better, especially if he intends to examine the Linn of Corrymulzie and the Linn of Dee, both lying in the line of his route, and perfectly lionized by visitors to Braemar. To the former we paid a flying visit for the purpose of gathering *Melampyrum sylvaticum*, which there grows plentifully; its other botanical productions are numerous, and, in conjunction with its exquisite scenery, seldom fail in exciting the admiration of the most careless observer. Some miles farther on we cross the Linn of Dee by a bridge, and descend on the other side, to have a closer view of this most remarkable natural phenomenon, which is that of the accumulated waters of the Dee above this point, pressing impetuously through a rift in the rock, (mica schist,) which, in its whole length, seldom exceeds a yard in breadth, and falling into dark boiling pools below, where their fury is gradually spent. The road continues parallel to the course of the river until we arrive at the point where it suddenly takes a northerly direction, which it then retains to its very source; after this point we have

no road, as that which we have hitherto used goes onwards through Glen Tilt. We have now entered Glen Dee, which is one of the routes usually taken to our destination, and pick up little that is new except *Molinia cærulea*, *Drosera Anglica*, and the more generally-diffused *D. rotundifolia*, of which a lady-botanist has furnished the beautiful description as she saw it growing far from her fatherland in the plains of Tasmania:—"The sundew, with its rosette of round leaves, sitting close to the soil, and sparkling like a cluster of little rubies, as the light glistens on its dew-tipped crimson fringe."

Every step now apprises us that we are approaching the vicinity of

"The grisly cliffs which guard
The infant rills of Highland Dee,
Where hunter's horn was never heard,
Nor bugle of the forest bee."

The first of them we encounter is Ben Votrin, a bare and conical mass, rising proudly from the Strath, and having, when we saw it, its summit enveloped in a dense cloud of mist. Next in order on the western side of the stream, is Cairntoul, remarkable for its height and numerous corries, from one of which dashed to its base a continuous stream, or rather fall, of at least a thousand feet in length. On one side of the stream, we had Cairn Vim and several others, before reaching Ben Macdhu. At the base of one of these, we gathered *Arabis petræa* in profusion. A little further on we commenced the most arduous part of the ascent, by following the course of a mountain stream, which in summer seemed to be fed by a field of snow at its summit, but whose torrent must, in winter, be irresistible, as vast dykes of stones piled on either side of its course testify.

As we ascended, we gathered *Sibbaldia procumbens*, *Cerastium trigonum*, *Polypodium alpestre*, *Jungermannia cochleariformis*, *Bryum Ludwigii*, *Polytrichum septentrionale*, and *Andræa Rothii*.* Skirting the edge of the patch of snow, or rather ice, at this season to which we have already referred, our course to the summit lay over and among huge slabs of granite, often upwards of twelve feet in length, of an oblong form, and presenting great regularity in their grouping. This is the usual effect of atmospheric and other agencies on granite, though nowhere have we seen the process of decomposition exemplified on a more gigantic scale than on Ben Macdhu, where, to recur to the ancient fable, if Cyclopean walls ever did exist, they are here, the result of causes apparently insignificant and slow in their operations, but nevertheless wielding a power inconceivably mightier than any which the mythological dreams of the ancients ever dared to attribute to the Cyclopes and Titans. On the summit are a hut (now roofless) and cairn, both I suppose raised by the government surveyors.

* In the same place Mr. Croall has, this season, (1856,) collected *A. nivalis*.

Having ascended the latter, we look around for the few plants that exist at this great elevation, being prevented from enjoying the view we had anticipated by an invidious mist that hung all round, and shut out the prospect, with the exception of about twenty yards in our immediate vicinity.

We saw plenty of Ptarmigans on the summit; the plants we found were, *Luzula arcuata* in great abundance, *L. spicata*, *Juncus trifidus*, *Salix herbacea*, *Silene acaulis*, with several lichens already mentioned.

To seek Loch A'an on the other side, with its famous "shelter stone," was our next object, but in this we were also disappointed; for, despite map and compass, so confusing are these mountain mists, we emerged into the visible world a good way down the hill, and, most provokingly, almost at the place by which we ascended. Making, therefore, the best of our way to the base, we soon had a fire of dry heath blazing, (having left the region of trees far behind, few indeed growing beyond the Linn,) and having discussed our coffee and 'brose,' a Scottish dish of easy composition, and wonderfully relished, especially by the hungry, who have always the additional advantage of carrying their own sauce along with them, we proceeded in search of a bed. Here, however, such a luxury is not to be obtained, and its place is generally supplied by the sheltered side of a stone; such a place we soon fell in with, and were not long in resigning ourselves to the arms of Morpheus. In the morning the same dreary mist hung on all the hills, and we began to be more sensible of the wild sublimity and solitude of the place; an effect which was much heightened as an Eagle came sailing majestically down the glen to Ben Votrin; truly has Hogg described this very spot as that where

"Mountain Eagles breed their young,
And aerial spirits ride the gale."

The time was beguiled with such thoughts as these, while our morning meal was preparing; nor did it take so long either, as we had gained considerable experience in this our first attempt at bachelor house-keeping, from several ludicrous mistakes of the previous evening. We now ascended the glen to the "Wells of Dee," which lie behind a vast rampart of loose stones, presenting undoubted marks of having been a true morrain. The Dee, then, takes its rise in a small lake of crystalline purity, fed by numerous unseen springs, and reflecting in its bosom the rugged sides of the overhanging mountains. Around it we collected the following plants: *Polypodium alpestre*, *Veronica alpina*, *Trollius Europæus*, *Thalictrum alpinum*, *Luzula spicata*, *Juncus trifidus*, *Geranium sylvaticum*, *Cerastium trigonum*, *Arabis petræa*, *Juniperis communis*, var. *nana*, *Cochlearia Greenlandica*, and *Viola palustris*.

We descended the same glen for some distance on returning, and then struck into Glen Lui-beg, which brought us again to the Linn, where we

collected *Fissidens adiantoides* and *Hieracium prenanthoides*. From this point to the village, the scenery from the road was enchanting; while the weather, which had been gradually brightening up since the morning, was of that warm and genial kind which can best be enjoyed only in scenery of such surpassing beauty as all have acknowledged the Aberdeenshire Highlands to afford.

A FEW WORDS ON
COMMENCING A COLLECTION OF LEPIDOPTERA.

BY THE REV. R. P. ALINGTON.

“Do as I say, not as I do.”

ALTHOUGH my collection of Lepidoptera is very limited and defective, I have nevertheless been frequently asked the following queries:—“Where, and how do you get these insects?—A question easily answered—“Many of them in my garden with a gauze net.”

“I had no conception that such a variety could be met with in this country.”

“Oh, yes, and hundreds more.”

Now it is just possible that such an inquirer, provided he knew how to commence operations, might be induced to become at least a *collector* from mere *admiration* of the beauty of the Flies he may *easily* obtain; and who knows but from such a small beginning, he might, some time or other become a Cuvier? But the complaint is ever the same—“I would if I knew how.” Moreover, how very frequently is the “would-be-naturalist” deterred from carrying a butterfly-net from the fear of *ridicule*; but this very common evil can only be overcome by example and companionship. In this neighbourhood a man with an insect-net is laughed at, and looked upon as the most simple child in creation; while in the more southern counties, nets in the day-time and lamps at night, meet you at every turn. The want, too, of plain and cheap works on the first rudiments of Entomology, has hitherto been a drawback to the persevering in this most fascinating and delightful of all pursuits. Descriptions of Flies written in cramped and frequently abbreviated Latin, will not be very tempting to a lukewarm beginner; but perhaps this observation may apply more to works on Coleoptera than Lepidoptera, of which I alone speak; mind you I do not say that such works are not useful or even necessary, but they are only so to the professed naturalist. If the beginner had no other encouragement than an abbreviated Latin description, would he not at once (having at first to be tickled like a trout) give up the attempt as tiresome, and as too like a return to school to persist in? But several works have of late years been published from which, with a very little

trouble, any one desirous to do so, may at least readily *distinguish* and *name* his specimens. Among others, "Morris's British Butterflies," "British Moths and their Transformations," two volumes, by J. O. Westwood, etc.

For the above reasons, then, I venture to forward to "The Naturalist" the following simple directions as a guide to the Entomologist in his *first* essays in that pursuit, hoping, short and imperfect as they are, that they may, nevertheless, induce some to carry the despised net, and fill their chloroform bottles with many a "scarce article." The old proverb is "first catch your fish, then cook him," first learn how to take a fly, then to set and name it. As I intend to confine my observation simply to this ABC of entomology, I shall give such directions only as are absolutely necessary (and no more) for carrying on the pursuit as an *amusement*, and leave time and inclination, (which to many I hope may not be wanting,) to complete the good work.

In the old "Naturalist," edited by N. Wood, Esq., vol. iii, page 81, I find that Mr. Dale, of Glanville's Wootton, in Dorsetshire, has an article on this very subject, headed "Hints to Young Naturalists," but his list of instruments for securing his prey are so numerous that they in fact require a horse to carry them; and even then, in spite of many a coat pocket, I do not see how he can find room for the vaseulum or sandwich box and whisky flask, which he considers indispensable. However, all this belongs more to the professional naturalist, out upon a long tour from home, than to the youngster who intends to hunt only his own flower-garden, or at most visit the neighbouring wood.

The question is, then, How do you catch, name, and preserve these Flies? Now, there are many plans adopted, but I think that the following directions will be found the most simple and effective for all common purposes. First, that you may be enabled to *name* your specimens, you must supply yourself with some works on Entomology, with *good coloured* plates of each species, in addition to having an *accurate description*—I before mentioned Westwood and Morris—(N.B. the edition of Westwood published in 1843 is far superior as regards the colouring of the plates, to the one published in 1854.) I know that many persons object to works with plates, as tending to produce carelessness in research; but remember, I only lay stress upon plates in this case—in order, if I may so express myself, to make the sap rise; I look for the return—the leaf and fruit—hereafter. To arrange your specimens properly, spend two shillings and sixpence, and purchase "H. Doubleday's Synonymic List of British Lepidoptera." This may be left for an amusement on a wet or winter's day.

But I have put the cart before the horse—I have named and classed my fly but have not caught it. The common way of taking the *Papilio*-*nidae*, and those Moths that fly early in the evening, is with a net made

of green gauze, (I prefer green to white.) The one I commonly use, and which I find the most generally useful, is the bat-folding one or clap net, about four feet long, and one foot six inches wide; I prefer this small size as a larger net is apt to catch the wind, and prevent that quick action which is absolutely necessary to secure the *Noctue*, etc., etc.; there should be a division with a common ferrule, similar to that in a fishing-rod, about a foot and a half from the top; being taken to pieces, it will then easily go into a shooting-coat pocket. Having taken your Fly, you now want the proper pins and box to convey it home. Of pins you must have a large supply, to be obtained at Edelsten and Williams's, Crown Court, Cheapside, at various prices per ounce; the most useful sizes I find to be 8 and 10; of course a few larger may be required—No. 13. Your box had better be made of tin, say about seven inches long, by four and a half wide, and two deep, lined with sponge on one side, which, being kept damp, will prevent your specimens becoming dry before you have leisure to set them, and with cork on the other. The box should be round at both ends, it will then go into a smaller pocket than

one that is square. A small tin box also for conveying home chrysalides should be your constant companion in your daily excursions; such a one as gunsmiths use for keeping copper caps in will be found sufficiently capacious for all ordinary purposes. The smaller Flies may be killed by pressure on the thorax, having previously closed the wings backwards; but I strongly recommend chloroform for all, small as well as large, therefore you must be provided with a wide-necked bottle, the stopper impregnated with it, of which said bottle more hereafter.

(To be continued.)

A SPRING WALK.

BY O. S. ROUND, ESQ.

THE Spring is certainly a most charming season, it must strike every one in this light, much as we hear of cold April and chilly May, but none so much as a lover of Nature, who finds every hour which advances towards the summer enhancing his pleasures, and increasing the number of objects the study of which constitutes his whole delight. It matters little that he has seen the same effects produced before, the same train of feathered visitants fill the woods and the fields, and haunt the margins of the streams, the same routine acted over again, in every subject of the vast magazine of Nature; there is ever a freshness belonging to this sub-

lime study, which renders it ever new, ever interesting; and much as he may have given his whole and undivided attention to it, there will perpetually occur something novel to add zest to his enjoyment.

Four or five months of comparative dreariness have passed away, and the woods have been well-nigh mute; no longer the bright stream of the flowing river echoed to the enlivening twitterings of the Swallow tribes, nor the golden orb of day caused perfume to exhale from every tuft of verdure and bush of the forest, nor was the silence of the earth, air, or grove broken by one dulcet note. It is April in its earlier youth, and a few of the budding beeches and sycamores begin to put forth small peeping leaves of the most beautiful yellow green. The sun sheds his mild influence over the scene, which partakes of the two seasons, now at their junction. Winter is gradually giving place to its benign successor, and as you walk by the road-side, the dry leaves which crackle beneath your feet are broken up with green herbage that peeps through them, and is rising amongst them.

"Oh! 'tis a glorious sight; the beaming rays
Seem to pervade, seek out, and penetrate
The deepest nooks, the unprotected plains,
The mountain tops, (where snow, yet lingering, rests,)
And creeping through the thick and dry dead leaves,
Seem to search out the verdure from beneath,
That lurks within the earth's unfettered mass;
Till, first at intervals, the rising germs,
Lifting the crackling crust that clothes them o'er,
Sprout into view, irregular and scarce;
Then spreading forth their tender tiny leaves,
O'ercome, at length, their dry and lifeless vest,
And flourish in one verdant covering!"

You stop for the very purpose of basking in the genial warmth, and whilst thus enjoying the vivifying influence of the scene, you hear the wild laughing note of the Willow-Wren, and see the Sulphur Butterfly flitting amid the brambles. What a feeling does such a sound and such an object call forth; there is an impulse in your bosom full of hope, full of pleasure; you know that these are the harbingers of everything that is lovely on the face of Nature, the very novelty, the sweet freshness in the prospect, gladdens the heart, and gives rise to the brightest anticipations. Advance yet one short month, (having been resident in town during the interval,) and take a stroll once more in the same scene, and with the sun beaming unclouded upon you. It is the perfection of rural beauty, everything is at its brightest, and all the summer-feathered visitants have arrived. As you listen to the chorus from an hundred throats, which sounds on every side, you may distinguish at intervals, every well-known, though long-absent voice. The Whitethroat chats harshly from the hedge-row; the Blackcap

fills the air with his sweet, full notes; the Chaffinch chirrups in plenitude of song from some neighbouring bough; and the Hedge-Sparrow utters its sweet inward notes from the brake at your side. The Woodpecker's joyous laugh echoes through the green arches of the coppice; the Wryneck monotonous from the oak, whilst the Cuckoo is heard in the distance, and what sweet scenes do you fancy that distance will realize! The Swallows twittering in the blue ether skim overhead, whilst higher still the Larks soar in the fleecy clouds, or flutter in mid-air, filling the vault of heaven with their rich melody. These are moments which exalt the soul, and may be said to constitute a sublime pleasure.

As I thus wander through the fields, after having been shut up, perhaps for months in town, I cannot help reflecting on the definition of pleasure, which says that the absence of pain alone constitutes a pleasure. It is so no doubt, but it is of an inferior kind, and partakes rather of the nature of ease, which is certainly a great species of enjoyment. It is this feeling, however, which doubtless enables us, when we have been long enthralled by business, and confined to the brick walls of a city, to enjoy the pleasing contrast of a visit to the country with a double zest. On this principle, if the weather was fine, my practice was merely to shake off the dust of my journey, and before tasting either dinner or conversation, to put on my shooting-jacket, don my cap, seize my stick, whistle my dog, and haste into the flowery solitudes of nature. It comes upon us in this manner with a novel freshness perfectly enchanting, and the minutest thing which habit might soon cause us to pass by unnoticed, is observed with a sensitiveness to which at other times we are strangers. Everything wears an air of such purity; the soft breeze that meets you is full of freshness and perfume, your prospect seems so unbounded, and there is a sweet freedom in the scene that communicates itself to the spirits in a joyous impulse. As you contemplate it you feel a hilarity you scarce know why, and a propensity to exclaim "This is pleasure." As you stand wrapt, as it were, in silent yet delighted contemplation, you cast your eye aside, and there sits the patient little companion of your walk, your dog. Assuredly this faithful animal was formed to be the companion of man; see how he watches and understands every turn of your countenance; and as he sees your eyes beaming with the fresh impulse which has been given to your spirits, at once partakes of your feelings, and looks delighted too; and if you extend your hand, licks it with ecstasy—token of participation in the sensations that fill your own heart. What can give us more true pleasure than to have beside us one who enters into, shares, and agrees with all our feelings! To admire Nature is to adore the Great Creator, for you cannot contemplate any of His works without at once a pleasing and awful admiration. You may use many things for good, enjoy

a country walk in this manner, and you may, if you will, obtain an innocent and lasting benefit.

Pembroke Square, Kensington, May, 1856.

A LIST OF SIZES OF CASES FOR BIRDS.

BY THE REV. F. O. MORRIS.

I GIVE my readers a paper which will, I am inclined to hope, be found very useful to many ornithologists, a list, namely, of British Birds, arranged according to the size of the different cases which may be appropriately assigned to each. I have made twelve divisions, and I think that these will be seen to be sufficient for the purpose. A great deal of trouble, confusion, and want of arrangement would be saved by the adoption of some such method. There may be a doubt as to whether this or that bird would not be better adapted to a case a size larger or a size smaller, and alterations can be made accordingly wherever it may seem better to each collector. Having the cases made in a series of uniform sizes to hold a specimen of each species, considerably more room will be found to be available, and the different situations occupied by land and water-birds on the ground or on a branch will also yield accommodation, as will likewise any adaptation of attitude that may perhaps in some extreme instances be found necessary or desirable. In a few instances the height and length must be reversed.

The following are the sizes I have determined on as the best, and I subjoin a list of the birds that seem likely to fit in each:—

No.	Height. in.	Width. in.	Depth. in.	No.	Height. in.	Width. in.	Depth. in.
1	6	5	3	7	26	25	10
2	9	7	3	8	28	20	9
3	11	9	4	9	32	18	9
4	12	11	5	10	34	26	12
5	20	18	9	11	36	27	11
6	24	18	9	12	39	31	15

No. 1.

Chiff Chaff.
Creeper, Common.
Regulus, Dalmatian.
Regulus, Fire-crested.
Regulus, Golden-crested.
Titmouse, Bearded.
Titmouse, Blue.
Titmouse, Cole.
Titmouse, Crested.

Titmouse, Great.
Titmouse, Long-tailed.
Titmouse, Marsh.
Wren.
Wren, Willow.
Wren, Wood.
Wren, Yellow-billed Willow.

No. 2.

Accentor, Alpine.
Blackcap.

Bullfinch.
 Bunting, Black-headed.
 Bunting, Cirl.
 Bunting, Common.
 Bunting, Lapland.
 Bunting, Painted.
 Bunting, Snow.
 Chaffinch.
 Flycatcher, Pied.
 Flycatcher, Spotted.
 Goldfinch.
 Greenfinch.
 Hawfinch.
 Lark, Crested.
 Lark, Shore.
 Lark, Short-toed.
 Lark, Sky.
 Lark, Wood.
 Linnæet, Common.
 Martin.
 Martin, Sand.
 Mountain Finch.
 Nightingale.
 Nightingale, Thrush.
 Nuthatch.
 Ortolan.
 Pipit, Meadow.
 Pipit, Richard's.
 Pipit, Rock.
 Pipit, Tree.
 Redbreast.
 Redpole, Lesser.
 Redpole, Mealy.
 Redstart.
 Redstart, Black.
 Siskin.
 Sparrow, Hedge.
 Sparrow, House.
 Sparrow, Tree.
 Stonechat.
 Swallow.
 Twite.
 Wagtail, Grey.
 Wagtail, Grey-headed.
 Wagtail, Pied.
 Wagtail, Ray's.

Wagtail, White.
 Warbler, Blue-throated.
 Warbler, Dartford.
 Warbler, Garden.
 Warbler, Grasshopper.
 Warbler, Orphean.
 Warbler, Savi's.
 Warbler, Sedge.
 Waxwing, Bohemian.
 Wheatear.
 Whinchat.
 Whitethroat, Common.
 Whitethroat, Lesser.
 Wren, Reed.
 Yellow-Hammer.

No. 3.

Blackbird.
 Crake, Little.
 Crossbill, American White-winged.
 Crossbill, Common.
 Crossbill, Parrot.
 Crossbill, Two-barred.
 Dipper, Common.
 Dotterel.
 Dunlin.
 Fieldfare.
 Grosbeak, Pine.
 Hoopoe.
 Kingfisher.
 Kingfisher, Belted.
 Knot.
 Martin, Purple.
 Oriole, Golden.
 Ouzel, Ring.
 Pastor, Rose-coloured.
 Peewit.
 Plover, Golden.
 Plover, Grey.
 Plover, Kentish.
 Plover, Little Ringed.
 Plover, Ringed.
 Quail, Andalusian.
 Redwing.
 Ruff.
 Sanderling.

(To be continued.)

SYSTEMA NATURÆ

BY THE REV. F. O. MORRIS.

(Continued from page 215.)

GLOSSOPHAGA.

Glossophaga amplexicaudata, Geoff.
*Spir. Fisch. Schinz.*Glossophaga caudifera, Schinz. G.
caudifer, Geoff. Fisch.Glossophaga ccaudata, Geoff. Fisch.
Schinz.

Glossophaga villosa, Schinz.

Glossophaga soricina, Geoff. Schinz.

Vespertilio soricinus, Fisch. Schreb.

Glossophaga megalotis, Schinz. Phyl-
lophora megalotis, Gray.Glossophaga nigra, Schinz. Phyllo-
phora nigra, Gray.

BRACHYPHYLLA.

Brachyphylla cavernarum, Schinz. Bra-
chyphylla badia, Gray.

DESMODUS.

Desmodus rufus, Prinz Max. Schinz.

Desmodus murinus, Schinz.

Desmodus d'Orbigny, Water. Schinz.

DIPHYLLA.

Diphylla ccaudata, *Spir. Schinz.*

ORDO IV.—RAPACIA.

FAMILIA I.—INSECTIVORA.

ERINACEUS.

Erinaceus Europæus, Linn. Schreb.
Schinz.

Erinaceus concolor, Mar. Schinz.

Erinaceus frontalis, Smith, Ben. Schinz.

Erinaceus hypomelas, Schinz.

Erinaceus albiventris, Wagn. Schreb.
Schinz.

Erinaceus Pruneri, Wagn. Schreb.

Schinz. E. heterodactylus, Sundewall.

Erinaceus auritus, Pall. Schreb. Schinz.

Erinaceus brachydactylus, Schinz. E.

auritus, Geoff. E. æthiopicus, Ehren.

Erinaceus libycus, Ehren. Wagn. Schreb.
Schinz.

Erinaceus algirus, Lereboullet. Schinz.

Erinaceus spatangus, Benn. Schinz.

Erinaceus Grayi, Benn. Schinz. E.
collaris, Gray.

Erinaceus platyotis, Sund. Schinz.

ERICULUS.

Ericulus nigricens, Guerin. Schinz.

Ericulus spinosus, Schinz. E. setosus,
Schreb. Centetes spinosus, Desm.

CENTETES.

Centetes setosus, Guer. Fisch. Schinz.

C. ccaudatus, Buff. Erinaceus ccau-
datus, Schreb.Centetes semispinosus, Cuv. Desm.
Schinz. Setiger variegatus, Geoff.
Fisch.

Centetes armatus, Guer. Schinz.

ECHINOGALE.

Echinogale Telfairii, Schinz. Echinops
Telfairii, Mar.

EUPLERES.

Eupleres Goudoti, Schinz.

CLADOBATES.

Cladobates Tana, Schinz. Tupaja Tana,
Raff. Horsf. Fisch. Hylogale Tana,
Temm.Cladobates ferrugineus, Schinz. Tu-
paja ferruginea, Raff. Horsf. F. Cuv.
Hylogale ferruginea, Temm. Sorex-
glis, Fisch.Cladobates Belangeri, Schinz. Tupaja
de Pegou, Belan.Cladobates speciosus, Wagn. Schreb.
*Schinz.*Cladobates Javanicus, Schinz. Tupaja
Javanica, Horsf. Desm. Fisch. Hy-
logale Javanica, Temm.Cladobates murinus, Schinz. Hylogale
murina, Diard, Temm.

HYLOMYS.

Hylomys suillus, Müll. Schinz.

THE PUFFIN, (*MORMON FRATERCULA*.)

BY JOHN DUTTON, ESQ.

THE Puffin frequents the high and almost perpendicular cliffs extending from Scratchell's Bay, near the Needles, Isle of Wight, to Freshwater Gate, but more especially at that lofty and perpendicular part of the cliffs called Main Bench, under the lighthouse. These grand and imposing cliffs, by far the loftiest in the island, are about six hundred feet in height, and in some parts higher. Here, in the breeding-season, are to be observed vast numbers of them, together with the Foolish Guillemot, or Willock, (*Uria troile*), and the Razor-bill, (*Alca torda*), all of which build here. Puffin shooting is a favourite sport of the visitors to this part of the island, and is in itself an exceedingly exciting recreation, it being no unfrequent occurrence for a party of three or four to kill three or four dozen cliff birds in a few hours.

The following remarks are from "Bell's Weekly Messenger." "Puffins. These marine migratory birds, which visit this island only in the breeding-season, during the present month (June) swarm in the locality of the Needles Rocks, at the western extremity of the Isle of Wight. Puffin shooting constitutes a peculiar branch of the fowler's pursuit, as the latter make a rich harvest from the feathers they obtain from these birds. The eggs are also taken in great quantities from their nests, which are built in the clefts of the rocks, and are applied to the purposes of refining and clarifying sugars on a very extensive scale."

 Miscellaneous Notices.

Stormy Petrel.—A Stormy Petrel was shot by a man of the name of Banks, and brought to me, but in a bad state.—R. V. DENNIS, Blatchington, near Seaford, Sussex, October 4th., 1856.

Phalarope.—A bird, described to me as a Storm Petrel, but which, according to the description of the old man who saw it, must have been a Phalarope, was watched for three-quarters of an hour, swimming about to leeward of a piece of wreck-timber. He described it as swimming more lightly than any other bird he had ever seen.—Idem.

Grey Phalarope.—I shot a Grey Phalarope last Monday, in an adjacent river; its movements were peculiarly graceful and light in the water, it flew rapidly like a Sandpiper, and joined company with a little party of Sandpipers on the wing.—Idem.

Ring Ouzel.—An unusual number of Ring Ouzels have made their appearance on the hills, feeding on the black-berries, etc., they are wild as

usual. I shot six in very fine condition; their crops were crammed with berries.—Idem.

Golden Plover.—I have seen and shot Golden Plovers about the sheep-folds.—Idem.

Green Sandpiper.—I yesterday shot the Green Sandpiper, rather a rare bird hereabouts.—Idem.

Greenshanks.—On Monday I saw three Greenshanks, by no means common visitors with us.—Idem.

Swallows.—On that day too, there was an uncommon assemblage of Swallows on the wire-fence in front of the house: as they have been less numerous since, it would seem that a party has emigrated.—Idem.

Nightjar.—A pair of Nightjars have sojourned with us for some time, and their curious mode of perching lengthwise on a bough, and their active pursuit of insects in the evening are very amusing. No gun is ever fired about the garden or shrubbery, nor any interference with birds permitted, so that a variety of species, both tame and wild, find a quiet retreat, except when some prowling fox or cat invades their territory, or any impudent Sparrow-Hawk makes a marauding excursion.—Idem.

Golden Orioles and Broad-billed Sandpiper in Norfolk.—A pair of Golden Orioles, in fine plumage, were killed at Lakenham, near Norwich, about the middle of May last; and a male specimen of the Broad-billed Sandpiper was procured about the same time at Yarmouth.—T. SOUTHWELL, Fakenham, August, 1856.

Wryneck.—The occurrence of the Wryneck in the North of England, being, I believe, decidedly rare, I may as well inform you that one was shot in this parish to-day. For two days previous I had watched it, and during this period it never strayed far from one spot. It was feeding on the slight embankment of a coal-railway, from whence it flew, when disturbed, to the adjoining hedge. Coal trains were passing at least every quarter of an hour. When I first discovered it, these would just startle it away for a few minutes; but to-day I saw a train pass within two yards of it without putting it up.—G. SOWDEN, Houghton-le-Spring, Durham, October 3rd., 1856.

Black-headed Gull.—When staying at Great Yarmouth, in Norfolk, not long since, I was taking my usual ramble on the beach, far from the town, when I observed one of the Gull tribe endeavouring to reach the sea across the sands; perceiving the bird was wounded, I hastened to intercept its progress, and after some little trouble captured it, when I discovered it to be the Black-headed Gull, (*Larus ridibundus*.) and taking it home with me, kept it till I left the sea, for Walsham, in a little

yard; its food consisting of shrimps, and such salt-water fish as I could procure. When I returned to the country, I put it into a reedy pond, abounding with fish of all sorts and sizes, but imagining the poor Gull would not fish for himself, and moreover, would not relish fresh-water fish, I fed him on salt-water fish; but his appetite improved so rapidly by "country air," that I found it would not answer keeping such an expensive bird, as he made no more of a small sole than a shrimp. Consequently I changed his diet to raw meat, which I found went down with him quite as readily as the fish; by degrees I left this off, and for eight months he lived in that pond, providing for himself; he had, however, a great propensity for straying away into the ploughed fields, and near the road, flying for refuge to his favourite old pond, whenever any appearance of danger alarmed him; till one ill-fated day for him, poor fellow, he got too far, and a dog in the road, giving chase, he was unable to reach his haven of refuge, and fell a victim to his canine enemy; his whitening, bleached bones, are all of him which mark the spot where he fell. It is this same species which annually visit Major Wayland's lake, at Scoulton, in Norfolk, and breed on the low marshy island in the middle of the water. I myself have seen the air darkened by these birds; when alarmed, they rise from the water and their nests, wheeling aloft, and uttering their sharp shrill cries.—T. E. W.



Another capture of Carabus intricatus in Devonshire.—On Tuesday last, the 9th. instant, Mr. J. J. Reading, of Gibbons Street, Plymouth, took a very fine and perfect specimen of *Carabus intricatus*. This is the second capture of that rare Beetle in the neighbourhood of Plymouth within the last few months.—JOHN GATCOMBE, Wyndham Place, Plymouth, September 12th., 1856.

The Shag, (*Pelecanus graculus*.)—A specimen, a young one, of the Shag, was taken in Cow Lane, in this town, yesterday morning; it is in the possession of O. Harris, Esq. From the description in Bewick, there can be no doubt of its identity.—W. BROOKS GATES, Derngate, Northampton, October 7th., 1856.

Little Gull, (*Larus minutus*.)—I saw two of the Little Gull on Skipwith Common last First of September.—EDWARD C. DAWSON, Osgodby Hall, Selby.

Note on the Habits of Drypta.—In its habits, *Drypta* most resembles *Brachinus*, hiding among the damp roots of long grass, burrowing deeper in dry weather. It is usually gregarious, two or more being found together in the same turf. Like *Brachinus* it emits a white and vapoury fluid when alarmed; this at least was observed by us in one example. In its movements it is less active than most of the *Geodephaga*, becoming more lively in the evening. It sometimes remains perfectly quiet with its antennæ curved inwards in an attitude of attention, as if listening with those organs. To the eye of a coleopterist the elegant little *Drypta*, first seen among the moist brown roots of grass, seems like a gem of beauty, and its capture must always give pleasure from its extreme rarity.—MARY ADAMS, 20, Hampshire Terrace, Southsea, Portsmouth, October 6th., 1856.

A specimen taken the first week in October, was obligingly sent with the above description.—F. O. MORRIS.

A lady friend of mine kept a chrysalis for me which she had dug up in her garden. It came out the 27th. of April; *Pygæra Bucephala*. This I suppose is very early, as Westwood says June is the time for them to come out. May 15th.: A Scorched-wing, (*Eurymene Dolabraria*,) came out. May 27th.: took *Paniscus*.—W. W. COOPER, West Rasen, June 2nd., 1856.

Exchange.

MR. J. HARDY, 43, Radnor Street, Hulme, Manchester, begs, as an instalment of support, to offer, unconditionally, dried examples of the following plants:—*Veronica hybrida*, *Erythræa pulchella*, *Carex digitata*, *C. teretiuscula*, and var. *Ehrharhti*, *Crithmum maritimum*, *Pyrola rotundifolia*, and var. *bracteata*, *Lastrea cristata*, *L. uliginosa*, *L. rigida*, *Adiantum C-Veneris*, *Ceterach officinarum*, and *Equisetum variegatum*.

I remember seeing a notice as to the exchange of Land and Fresh-water Shells in "The Naturalist," but have forgotten the particulars. I should be glad to exchange some of our southern species, as *Helix virgata*, *carthusiana*, *arbustorum*, etc., for northern species.—R. V. DENNIS, Blachington, near Seaford, Sussex.

The Quarrier.

THE "NATURALIST'S" HERAINE.

I HAVE received the two subjoined letters, on the subject of the "annexation" of Guernsey and the other Channel Islands, Entomologically as well as Botanically, Conchologically and Politically, to Great Britain:—

1.—"I am amused, nay indignant, at the position Mr. Stainton has assumed regarding Jersey, its insects, etc., and especially at the highly ungentlemanly manner in which he has treated our Editor, and make bold to say that I represent the opinion of the whole body of your readers, *nem con*, in being fully persuaded of the soundness of your views on that subject, and unhesitatingly declaring the 'Northern Divine' in the right."
—W. S.

2.—"I cannot agree with you about the Channel Islands, 'Jersey, Guernsey, Alderney, and Sark, which are all that England retains of Normandy.' That was taught me at school. These islands are in a French bay; before the reformation they were in a French diocese; and are now governed by Norman law. Not knowing what botanists or conchologists think of the matter I will answer your queries by others:—

1.—In reply to the question whether the Shetland or Channel Islands are farthest from Britain, I ask to what *main-land* are they respectively nearest?

2.—I have before me King John's will. He is 'Rex Ang: Dom. Hib: Dux Norm: et Acquit: Com: An.' If Her Majesty were still Duchess of Normandy and Aquitaine, and Countess of Anjou, would you account the productions of those places British?

3.—Now if you say *no* to that, I retort your own queries.

4.—Suppose an elevatory movement to lay dry the British Channel, to which country would you conscientiously assign the little hills which would appear in the plain?

5.—Why do you stop at the Channel Islands? Why not include Heligoland? Why not Bermuda, or Jamaica?

6.—Yet more about Orkney and Shetland. Suppose Denmark or Norway to redeem them by cashing up the sum for which they were mortgaged in the fifteenth century, do you think their productions should be accounted Danish or Norse, instead of British?

7.—If you were writing the Natural History of Durham, would you include a plant only found at Creyke, till lately, part of that county, though detached forty miles from it?"—Yours truly, W. GRAY.

The former of these two communications speaks for itself; the latter requires a word or two of comment:—

I am quite sure that Mr. Gray is too good and able a lawyer to instruct a client to "do as he says" in his letter. He knows as well as

I do that to ask one question is no reply to another. What would the Judge say to a witness, who instead of giving a plain answer to a point blank question, should come out with a "Tu quoque" interrogation? He would at once make out his "mittimus" and commit him, unless indeed he might think that he had saved him the trouble by committing himself.

The whole gist of my argument was, that as the leading Conchologists, and the leading Botanists, admit Guernsey and Jersey shells and plants as British, so by parity of reasoning ought Guernsey and Jersey insects to be admitted as British by Entomologists. The main question I asked was, why it should not be so? Mr. Gray begins by saying that he does not know what the opinions of the two former are on the subject. I will therefore tell him—They are unanimous in the admission of Guernsey species as British.

But to proceed—My question as to whether the Shetland or the Channel Islands are farthest from Britain, he answers (*quære* answers,) by asking to what main-land are they respectively nearest? I will answer this, though not, I conceive, called upon by fair argument to do so, that any one with a map before him will of course see that Guernsey is nearer to France than to England; but I refer him to my concluding argument.

His question No. 4 should come in here, and is hereby answered at one and the same time with the previous one.

V.—"Why stop at the Channel Islands? Why not include Heligoland? Why not Bermuda or Jamaica?" Because they are not part of "Great Britain or Ireland!" As well ask, "Why not include India and New Zealand? Why not Australia and Canada?" Another lesson which we have been taught at school is, that the sun never sets on the Queen's dominions; so that if we were to carry out Mr. Gray's ratiocination, (not that I mean to imply that his argument intended anything but a "*reductio ad absurdum*,") the "*penitus toto disjecti orbe Britannii*," (I must reduce the poetry into plain prose, and not mind the "*disjecti membra poetæ*,") must include in their local museums all the species that are shone upon by the sun while the earth revolves on its axis.

Question III. I do not understand.

Question II. may properly come in here, and to it I reply, (though again under protest,) that Mr. Gray could hardly have adduced an argument more fatal to his own theory. For his quotation, so far from calling Normandy or Aquitaine part of the *kingdom* of "Great Britain and Ireland," (the only kingdom for which I am contending,) expressly distinguishes the Anglia and Hibernia from these *provinces*. Nay, His Majesty was *king* of the former, and only *duke* (*dux*) of the latter. Mr. Gray, I am sure, will be the last person to deny to Her Majesty her right as *sovereign* of Guernsey as well as of England, and if so, the latter forms part of her "kingdom

of Great Britain and Ireland." If indeed Her Majesty were only Duchess of Guernsey, it might be a different thing, but as it is, the case is against him. "Dead men tell no tales" must in future then be altered into "Dead men tell tales." King John steps into the witness box, but then turns round on the counsel for the prosecution, and gives his testimony in favour of the defence.

VI.—I may here mention that in writing the article on this subject in the September "Naturalist," I had at first inserted an additional question, as a corollary, "Which has belonged for the longest period of time to the British crown?" but having no book to refer to for the dates, drew my pen through what I had written. Here again Mr. Gray steps in to my assistance. If the sum paid in the fifteenth century were to be refunded, and Orkney and Zetland were again to be attached to old Scandinavia, to which country would I attach their productions? This is not a case in point. To be a parallel, Orkney and Shetland ought to have belonged at the present day to Scandinavia as long as the Channel Islands to Britain, for part of the argument, and to be as near its shores; but in any case what I should say would depend on what others, my superiors in science, had decided on the subject. If they saw fit to admit the shells and plants of those islands into the Scandinavian or the British Fauna, as the case might be, I would admit the insects of the islands also.

VII.—This question supposes an extreme case, and also fails altogether in suggesting a parallel. So far as it is to be answered at all, I give the same answer to it that I have to No. VI.

IV.—"To which country would I conscientiously assign the Channel Islands, if the Channel itself were to become "terra firma?" Conscience, I fancy, had very little to do with the appropriation of the islands, but *being* appropriated, I would follow the leading naturalists in the appropriation of their natural productions.

In conclusion, to shew Mr. Gray that his argument will not hold water, I will suppose another extreme case for him, and put it, as he seems to prefer, in the form of a question. If there was an island in the exact centre of the Atlantic ocean, how would he be guided as to the assignment of its natural productions? Would he assign the whole to America, or to England, or those of one side of it to one continent, and of the other to the other, and if so, how would he keep the birds, beasts, and insects from passing the line of demarcation? *Item*—Does not Portugal belong geographically to Spain, far more than Guernsey to France?

In a word, Mr. Gray sets up his own opinion above those of Hooker, Babington, Forbes, and all modern conchologists and botanists. I am content to follow in their wake.—That is the only difference between us.

F. O. MORRIS.



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THE
NATURALIST;

A POPULAR MONTHLY MAGAZINE,

ILLUSTRATIVE OF THE

ANIMAL, VEGETABLE, AND MINERAL
KINGDOMS.

WITH OCCASIONAL ENGRAVINGS.

CONDUCTED BY

THE REV. F. O. MORRIS, B.A.,

Member of the Ashmolean Society, etc.

Author of "A History of British Birds." "A History of British Butterflies."

"A History of the Nests and Eggs of British Birds."

"A Bible Natural History." "A Book of Natural History," etc., etc., etc.

O LORD, how manifold are Thy works! in wisdom hast Thou made them all: the earth is full of Thy riches.—PSALM civ., 24.

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Communications have been received from the REV. J. GREENE, (two);—REV. H. HARPER CREWE;—MISS WILKINSON;—K. C.;—F. M. BURTON, Esq., (two);—C. R. BREE, Esq., (two);—REV. T. W. MATTLAND;—GERVASE F. MATHEWS, Esq.;—F. BOND, Esq., (two);—G. T. OLDFIELD, Esq., (two);—MR. R. D. CARTER;—MR. JOHN BRAIN.

NOTICE TO ENTOMOLOGISTS.

FOR the future various matters connected with Entomology, will receive more attention in this Magazine than they have hitherto done. Promises of assistance in this department have been made by several able Entomologists. The Editor will be glad to receive contributions of a scientific character.

****** Correspondents are particularly requested to write the names of persons, places, and things **VERY DISTINCTLY**.

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Communications, Drawings, Advertisements, etc., to be addressed to the Rev. F. O. MORRIS, Nunburnholme Rectory, Haxton, York;—Books for Review and Parcels, to the care of Messrs. GROOMBRIDGE, 5, Paternoster Row, London.

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Advertisements to be sent in not later than the 15th. of the Month.

HAUNTS OF THE TOWN SPARROW.

BY C. J. S.



I WOULD forgive my enemy the greatest wrong, were I but sure he loved a Sparrow. I am so used to their gay, bustling company, as to look upon them as part and parcel of my town existence; so accustomed to their single note, and to hear the flutter of their wings, that I abjure the fact that there are golden canaries singing at a hundred windows, and blithe goldfinches pouring forth sweet melody; or that now and then a lark may be seen far up, away amid the blue sky, that by some inadvertent means has strayed from the vicinity of broad green meadows, and sweet hawthorn-scented lanes, towards the great murky town. I forget these, knowing they are strangers here, tarrying only on compulsion, while my little dusky brown friend is a native, and a true cockney.

The life of a Town Sparrow constitutes a biography in itself, so full of incident is it. He is as different from the *Pyrgita domestica* of the country, as is the pale artizan from the sunburnt ploughboy. Their daily lives and habits differ, as do the circumstances by which they are surrounded.

Mr. Mudie, somewhat depreciating the interest attached to the Sparrow, says that "it needs no description, being found at all times, and in all places." True it is common enough; but how many things are there, which are termed *common* and are ignorantly despised, common things of life, which to the observer contain more poetry and real interest, than many so-called rarities. It is because the Sparrow is common that we love him; he is bound up in our every-day existence, and like the robin, has been one of the *Lares* of an English home.

In the early morning, when the country bird is peeping from under the waving leaves, or merrily saluting the labourer on the high-road, the London Sparrow is up and doing, while the streets are yet comparatively quiet; peeping in at garret windows, and with noisy chirp waking the laggard sleepers, or, assembling with his companions to discuss a meal, snatched from the breakfast assigned to the fowls of neighbouring stable-yards. A few hours later in the day, when the streets grow bustling, I notice that our friend grows very important and bustling too. In the broad noon-day, with the glaring sun shining fiercely down upon the whitened streets, he will frisk about, stopping still upon the pavement until you are close upon him, thinking of the recipe concerning certain salt being placed upon the tail, and then with roguish demeanour he flies off to his companions, or perchance to settle upon the bronze nose of some giant statue of a warrior.

He is busy, too, upon 'Change,' strutting and hopping about as if he only possessed a true knowledge of the state of the corn-market, which he

has received from some friend who is a denizen of the green lanes, where the wheat ears lay thick upon the path fallen from the loaded wain.

He is fond, too, of quiet retired courtways in the city, where the quaint old gabled houses afford him many a snug retreat, and he will hop upon the great bow-window-sill, gladdening the eyes of the clerk sitting within, who knows that he will not disappear till he gains the wished-for biscuit crumbs, which, as his company is a pleasure, are indefinitely delayed.

Down other courts too, where men and women die daily by dozens, and disease lurks in every corner, the Sparrow is found, when other birds, kept in cages, die, and plants—poor withered things—can only be recognised as sapless woody stems. In these places, where life is so hard to retain, the Town Sparrow is as lively and companionable as in the semi-green railed-in squares of the West-end; to the poor he takes the place of the warblers of the grove, albeit he has but a faint, yet withal a spirited chirp.

Nor are these his only haunts. In the early morning, passing beneath the great black dome of St. Paul's, through the low old-fashioned archway leading to the district of law and lawyers, we come suddenly upon a large tree, perhaps we have been attracted thither by hearing a babel of bird voices upon the morning air; perhaps by the air of retirement about the place; there they are however, filling every branch and twittering about among the leaves, holding a morning concert for the benefit of the Dean of St. Paul's, who lives in the great house adjoining.

Then in little out-of-the-way city church-yards, so small in compass, that one wonders where they buried the dead of by-gone generations, the Sparrow luxuriates in the possession of opaque green-leaved trees, and hiding amid the tall rank grass that in summer-time grows thick about the crumbling stone tombs of deceased burgesses.

But above all, the Sparrow's favourite haunt is the Fountain in the Temple, that green oasis in the wilderness of bricks and mortar; how he loves the thick over-arching trees that rustle against the windows of law-chambers, and the soft grass watered by the fountain; and the fountain itself; oh! the crystal waters of that fountain! leaping up and falling again in diamond sprays upon the birds beneath, who are dipping their notched beaks in the marble basin, or smoothing their ruffled plumage. As cheering and refreshing to the Town Sparrow, must this leaping, tree-shaded fountain be, as it is to the weary-worn Naturalist, panting to go forth into the boundless domains of Nature. We can fancy the Sparrows by the side of this fountain, looked upon by loveable Oliver Goldsmith, in the leisure moments he takes while writing his "Animated Nature," or bluff Johnson while taking his after-tea walk.

What then, if he cannot share the delights of the country Sparrow? are there not a thousand things in this vast London to render the unfettered bird joyous, if he cannot nestle under the straw-thatched roofs, or fly through tangled hedges; is he not at least happy and contented with his lot?

He has a dirtier brown garb than his brethren of the fields, and is bolder and less easily frightened; he is fond too of charming his companions from ledge to ledge, twittering and fluttering most violently the while; this is sometimes in a playful mood, and sometimes we fear when he feels disposed to engage in mortal combat. When fighting, he is always on the wing, and does not, like other birds, relish a "stand-up fight." He has a peculiar way too, of edging up to solemn hens, with the intention of abstracting a portion of their food, never thinking of the consequences that may result. There are times when he looks plump and smooth, and is glad of your company, and others when he is ragged and shy; and he has also a system of daily visiting, if you only scatter a few crumbs, and on these occasions he invariably announces himself.

But there are problems connected with the Town Sparrow. Where he builds his nest, or where his bones are laid when life is gone, are yet to be solved. I have taken many a nest, and seen many more, under thatch and tile in country towns and villages, but I never saw, or heard of a Sparrow's nest in London, although there is a periodical visitation of the young. It may be that they build in inaccessible places, or that men are too pre-occupied in the business of life, to notice so trivial a thing: that they do build is certain, but where?

Again, London Sparrows never die, at least they are never found dead; like the abused and patient donkey they are always in existence, and the fact of either being found dead is regarded as a rare phenomenon. Perhaps they die in unknown corners of old houses, or, what is more likely, retire into the country to end their days.

There are many other peculiarities that I have noticed (and who has not?) in my daily journeys through the great city, peculiarities that constitute facts, and that prove that even in the crowded streets, far away from all that is green and pleasant, there is work for the naturalist. Although he may long to hear the warbling of other songsters, and see brighter flowers and greener trees, yet he will find that the great book of nature has one chapter devoted to other lanes and highways than those in which the brightest flowers bloom, or the sweetest songsters sing.

A LIST OF THE BIRDS OF NOVA SCOTIA,
AS FAR AS ASCERTAINED, COMPILED MOSTLY FROM
ACTUAL OBSERVATION, IN THE YEARS 1852-3-4 AND 5.

BY LIEUT. BLAKISTON, OF THE ROYAL ARTILLERY; AND LIEUT. BLAND, OF
THE ROYAL ENGINEERS.

Those marked * are on the authority of Mr. Andrew Downs, a naturalist resident in the country.

LAND BIRDS.

- Bald-headed Eagle*, (*Haliaeetus leucocephalus*).—Resident: not uncommon.
- ✓ *Osprey, or Fish Hawk*, (*Pandion haliaetus*).—Common along the coast: breeds. (*Pandion carolinensis*)
- ✓ * *Jer-Falcon*, (*Falco Islandicus*).—Very rare, and only in winter: one instance in ten years. (*Falco, also*)
- Pigeon Hawk*, (*F. columbarius*).—Common: breeds.
- Sparrow Hawk*, (*F. sparverius*).—Not uncommon: breeds. (*Fimbr. albus*)
- Red-shouldered Buzzard*, (*Buteo lineatus*).—Rather common: breeds.
- ✓ *Rough-legged Buzzard*, (*B. lagopus*).—Rare. (*Archibuteo*)
- Red-tailed, or American Buzzard*, (*B. borealis*).—Not common.
- American Goshawk*, (*Astur atricapillus*).—Rather common.
- Sharp-shinned Hawk*, (*A. fuscus*).—Rather common. (*Accipiter*)
- American Hen Harrier*, (*Circus Hudsonicus*).—Abundant: breeds.
- ✓ *Hawk Owl*, (*Strix funerea*).—Common: breeds mostly north. (*Sturnia*)
- ✓ *Snowy Owl*, (*S. nyctea*).—Rare here in winter: breeds north. (*Nyctea*)
- Long-eared Owl*, (*S. otus*).—Not common. (*Otus americanus*)
- Short-eared Owl*, (*S. brachyotos*).—Not common. (*Brachyotos cassini*)
- Acadian Owl*, (*Noctua Acadica*).—Resident: common.
- ✓ *Tengmalm's Owl*, (*N. Tengmalmi*).—Rare: resident inland. (*N. Richardsoni*)
- ✓ *Sparrow Owl*, (*N. passerina*).—Found inland: very rare. (*Wither. noctua*)
- Barred Owl*, (*Syrnium nebulosum*).—Resident: common. (*Colula*)
- Great Horned Owl*, (*Bubo Virginianus*).—Resident: very common.
- Whip-poor-will*, (*Caprimulgus vociferus*).—Rare: arrives beginning of June.
- Night Hawk*, (*C. Virginianus*).—Abundant; arrives end of May: breeds.
- † *Chimney Swallow*, (*Hirundo pelagica*).—Arrives end of March.
- ✓ * *Purple Martin*, (*H. purpurea*).—Occasional. (*Progne*)
- White-bellied Martin*, (*H. bicolor*).—Abundant: arrives about 20th. April.
- Republican, or Cliff Swallow*, (*H. fulvus*).—Abundant: arrives about 1st. May; departs about 20th. August.
- Barn Swallow*, (*H. rustica*).—Abundant: arrives about 1st. of May; departs beginning of September.
- ✓ *Bank Swallow*, (*H. riparia*).—Inland. (*Cotile*)

† Is this English name the right one? Our English Swallow *H. rustica* is the Chimney Swallow.—F. O. MORRIS.

Belted Kingfisher, (*Alcedo alcyon*.)—Common: arrives about 1st. May; departs middle of September. *Ceryle*

Tyrant Flycatcher, (*Muscicapa tyrannus*.)—Common inland: breeds. *Tyrannus*

Green-crested Flycatcher, (*M. Acadica*.)—Not common.

Wood Pee-wee, (*M. virens*.)—Not common.

American Redstart, (*M. ruticilla*.)—Abundant: arrives about 10th. May. *Setola*

Least Pee-wee, (*M. pusilla*.)

Great American Shrike, (*Lanius borealis*.)—Not common: resident during winter.

Migratory Thrush, or Robin, (*Turdus migratorius*.)—Abundant: arrives middle of April.

Hermit Thrush, (*T. solitarius*.)—Arrives 1st. May: abundant. Nests on the ground.

Olivaceous Thrush, (*T. olivaceus*.)—Not common: nests in bushes.

Cat Bird, (*T. felivox*.)—Common inland: arrives 1st. June. *Minimus*

Golden-crowned Thrush, (*T. aurocapillus*.)—Common: arrives about 10th. May.

* *Water Thrush*, (*Cinclus Americanus*.)—Inland: rare.

American Pipit, (*Anthus Ludovicianus*.)—Arrives in flocks about 20th. September: goes south.

Canada Flycatcher, (*Myiodynastes Canadensis*.)—Common inland: arrives about 10th. May.

Wilson's Blackcap, (*M. Wilsonii*.)—Inland, not common: arrives about 10th. May.

Yellow-rump Warbler, (*Sylvicola coronata*.)—Abundant: arrives about 24th. April.

* *Black-poll Warbler*, (*S. striata*.)—Rare.

Bay-breasted Warbler, (*S. castanea*.)—Rather rare: arrives about 10th. May.

Chesnut-sided Warbler, (*S. icterocephala*.)—Common: arrives about 10th. May.

Hemlock Warbler, (*S. parus*.)—Resident in autumn: departs in November.

Black-throated Green Warbler, (*S. virens*.)—Abundant: arrives about 10th. May.

* *Cape May Warbler*, (*S. maritima*.)—Very rare: one instance only.

Blackburnian Warbler, (*S. Blackburnia*.)—Not uncommon inland.

Yellow-poll Warbler, (*S. vestiva*.)—Common: arrives about 5th. May.

Red-poll Warbler, (*S. petechia*.)—Very common: arrives about 23rd. April.

Yellow-back Warbler, (*S. Americana*.)—Inland in hard woods: rare.

* *Black-throated Blue Warbler*, (*S. Canadensis*.)—Rare.

Black and Yellow Warbler, (*S. maculosa*.)—Abundant: arrives about 10th. May.

- * *Blue-green Warbler*, (*S. coerulea*.)—Very rare.
- * *Mourning Warbler*, (*Trichas Philadelphica*.)—Very rare.
- Maryland Yellow-throat*, (*T. Marilandica*.)—Abundant.
- Nashville Warbler*, (*Sylvicola rubicapilla*.)—Rare.
- Black and White Creeper*, (*Certhia varia*.)—Common: arrives about 10th. May.

- Winter Wren*, (*Troglodytes hyemalis*.)—Inland: not common.
- American Goldcrest*, (*Regulus satrapa*.)—Resident: common.
- Ruby-crowned Wren*, (*R. calendula*.)—Not common.
- Blue Bird*, (*Sialia Wilsonii*.)—Occasional.
- Brown Creeper*, (*Certhia familiaris*.)—Resident: common.
- Blackcap Tit*, (*Parus atricapillus*.)—Abundant: resident.
- Solitary Vireo*, (*Vireo solitarius*.)—Not common.
- Warbling Vireo*, (*Vireo gilvus*.)—Rare.
- Red-eyed Vireo*, (*Vireo olivaceus*.)—Very common: arrives about 10th. May.
- Cedar Bird, or Waxwing*, (*Bombycilla Carolinensis*.)—Arrives in flocks 1st. June; leaves end of August.

Shore Lark, (*Alauda alpestris*.)—Arrives from north middle of October; return from south 20th. March. *Otocoris*

Fox-coloured Sparrow, (*Fringilla iliaca*.)—Breeds north: arrives in December going south; returns 15th. March.

Song Sparrow, (*F. melodia*.)—Earliest singing bird, 14th. March; goes south with Warblers.

White-throated Sparrow, (*F. Pensylvanica*.)—Arrives beginning of April: abundant.

Bay-winged Sparrow, (*Emberiza graminea*.)—Very rare.

Chipping Sparrow, (*E. socialis*.)—Inland.

Tree Sparrow, (*E. Canadensis*.)—Common here in winter: breeds north.

Snow Bird, (*Niphoëa hyemalis*.)—Very abundant: arrives 1st. of April; leaves 20th. October. *Struthus*

Swamp Sparrow, (*Fringilla palustris*.)—Not uncommon: arrives 1st. May.

Northern Redpole, (*Linaria borealis*.)—Abundant in flocks during autumn and winter: breeds north. *Reanthus canescens?*

Pine Finch, (*L. pinus*.)—Probably resident.

Purple Finch, (*Fringilla purpurea*.)—Very common: arrives about 27th. March.

Savannah Sparrow, (*Emberiza Savanna*.)—Abundant: arrives 10th. June; departs 15th. September.

Snow Bunting, (*E. nivalis*.)—In flocks: arrives about 1st. November; departs about 20th. March: breeds north. *Plectrophanes*

* *Indigo Bird*, (*Fringilla cyanea*.)—Accidental: have been one or two instances.

- American Goldfinch*, (*Carduelis tristis*).—Inland: rare.
- Pine Grosbeak*, (*Corythus enucleator*).—Here in winter; some years abundant: breeds north.
- Common Crossbill*, (*Loxia curvirostra*?)—Resident. *(Loxia americana)*
- White-winged Crossbill*, (*L. leucoptera*).—Resident: common.
- Rose-breasted Grosbeak*, (*Coccothorus Ludovicianus*).—Inland: rare.
- * *Scarlet Tanager*, (*Pyrranga rubra*).—Accidental.
- Bobolink, or Rice Bunting*, (*Emberiza oryzivora*).—Common inland: arrives about 1st. May. *(Dolichonyx)*
- * *Cow Blackbird*, (*Molothrus pecoris*).—Occasional.
- * *Red-winged Blackbird*, (*Agelaius phoeniceus*).—Inland: occasional.
- Great Cow Blackbird*, (*Quiscalus major*).—Very rare.
- Common Crow Blackbird, or Purple Grackle*, (*Q. versicolor*).—Rare.
- Rusty Grackle*, (*Q. ferrugineus*).—Common: arrives 17th. March; departs about 20th. October.
- Raven*, (*Corvus corax*).—Resident: not common.
- American Crow*, (*Corvus Americanus*).—Resident: common.
- * *Fish Crow*, (*C. ossifragus*).—Resident: rare.
- Blue Jay*, (*Garrulus cristatus*).—Resident? abundant. *(Cyanocorax)*
- Canada Jay*, (*G. Canadensis*).—Resident: abundant. *(Perisoreus)*
- * *White-breasted Nuthatch*, (*Sitta Carolinensis*).—Autumn and winter: not common.
- Red-bellied Nuthatch*, (*S. Canadensis*).—Common in winter: inland.
- * *Brown-headed Nuthatch*, (*S. pusilla*).—Very rare.
- * *Meadow Lark*, (*Sturnella Ludovicianus*).—Very rare; inland: one instance.
- Ruby-throated Humming Bird*, (*Trochilus colubris*).—Abundant: arrives beginning of April; departs about 20th. September.
- Pileated Woodpecker*, (*Picus pileatus*).—Inland; rare: resident.
- Hairy Woodpecker*, (*P. villosus*).—Very common: resident.
- Downy Woodpecker*, (*P. pubescens*).—Common: resident.
- Yellow-bellied Woodpecker*, (*P. varius*).—Inland; not common: migrates.
- Arctic Three-toed Woodpecker*, (*P. Arcticus*).—Rather rare: resident.
- Golden-wing Woodpecker*, (*P. auratus*).—Common: arrives about 1st. May; departs in November. *(Colaptes)*
- * *Black-billed Cuckoo*, (*Coccyzus erythrophthalmus*).—Very rare.
- Yellow-billed Cuckoo*, (*C. Americanus*).—Rare; arrives about 1st. June: breeds.
- Passenger Pigeon*, (*Columba migratoria*).—Sometimes very abundant: arrives about end of July. *(Pectopistes)*
- Ruffed Grouse*, (*Tetrao umbellus*).—Abundant; resident: young fly about 20th. August. *(Bonasia)*
- Canada Grouse*, (*T. Canadensis*).—Resident: not very common.

A LIST OF SIZES OF CASES FOR BIRDS.

BY THE REV. F. O. MORRIS.

(Continued from page 256.)

No. 3.

Sandpiper, Bartram's.
 Sandpiper, Curlew.
 Sandpiper, Pectoral.
 Sandpiper, Purple.
 Sandpiper, Schinz's.
 Shrike, American Grey.
 Shrike, Great Grey.
 Shrike, Red-backed.
 Snipe, Brown.
 Snipe, Common.
 Snipe, Great.
 Snipe, Jack.
 Snipe, Sabine's.
 Starling.
 Starling, Red-winged.
 Stint, Little.
 Stint, Temminck's.
 Swallow, Spine-tailed.
 Swift, Common.
 Swift, White-bellied.
 Thrush, Gold-vented.
 Thrush, Missel.
 Thrush, Rock.
 Thrush, Song.
 Thrush, White's.
 Turnstone.
 Woodchat.
 Woodcock.
 Woodpecker, Hairy.
 Woodpecker, Lesser Spotted.
 Woodpecker, Three-toed.
 Wryneck.

No. 4.

Avocet.
 Bee-eater.
 Chough.
 Colin, Virginian.
 Coot.
 Courser, Cream-coloured.

Crake, Baillon's.
 Crake, Spotted.
 Cuckoo.
 Cuckoo, Great Spotted.
 Cuckoo, Yellow-billed.
 Dove, Ring.
 Dove, Rock.
 Dove, Stock.
 Dove, Turtle.
 Godwit, Bar-tailed.
 Godwit, Black-tailed.
 Grebe, Little.
 Greenshank.
 Gull, Buonaparte's.
 Gull, Little.
 Hobby.
 Jay.
 Kestrel.
 Magpie.
 Merlin.
 Moorhen.
 Nightjar.
 Nutcracker.
 Owl, Little.
 Owl, Scops-eared.
 Owl, Tengmalm's.
 Oyster-catcher.
 Partridge, Barbary.
 Partridge, Common.
 Partridge, Red-legged.
 Phalarope, Grey.
 Phalarope, Red-necked.
 Pigeon, Passenger.
 Plover, Great.
 Pratincole, Collared.
 Quail, Common.
 Rail, Land.
 Rail, Water.
 Roller.
 Sandpiper, Broad-billed.
 Sandpiper, Buff-breasted.
 Sandpiper, Common.

Sandpiper, Green.
 Sandpiper, Spotted.
 Sandpiper, Wood.
 Stilt, Black-winged.
 Sparrow-Hawk.
 Tern, Lesser.
 Woodpecker, Great Black.
 Woodpecker, Great Spotted.
 Woodpecker, Green.

No. 5.

Auk, Great.
 Auk, Little.
 Crow, Carrion.
 Crow, Hooded.
 Gull, Black-headed.
 Gull, Common.
 Gull, Ivory.
 Gull, Laughing.
 Gull, Masked.
 Gull, Ross's.
 Gull, Sabine's.
 Jackdaw.
 Kittiwake.
 Petrel, Bulwer's.
 Petrel, Fork-tailed.
 Petrel, Storm.
 Petrel, Wilson's.
 Puffin.
 Razor-bill.
 Rook.
 Tern, Arctic.
 Tern, Black.
 Tern, Caspian.
 Tern, Common.
 Tern, Gull-billed.
 Tern, Noddy.
 Tern, Roseate.
 Tern, Sandwich.
 Tern, Swift.
 Tern, Whiskered.
 Tern, White-winged Black.

No. 6.

Duck, Bimaculated.
 Duck, Buffel-headed.

Duck, Eider.
 Duck, Ferruginous.
 Duck, Harlequin.
 Duck, King.
 Duck, Long-tailed.
 Duck, Pintail.
 Duck, Red-crested Whistling.
 Duck, Scaup.
 Duck, Steller's Western.
 Duck, Summer.
 Duck, Tufted.
 Duck, Wild.
 Gadwall.
 Garganey.
 Golden-eye.
 Goosander.
 Guillemot, Black.
 Guillemot, Brunnich's.
 Guillemot, Common.
 Guillemot, Ringed.
 Gull, Glaucous.
 Gull, Herring.
 Gull, Iceland.
 Gull, Lesser Black-backed.
 Merganser, Hooded.
 Merganser, Red-breasted.
 Petrel, Capped.
 Petrel, Fulmar.
 Pochard.
 Raven.
 Redshank, Common.
 Redshank, Spotted.
 Scoter, Common.
 Scoter, Surf.
 Scoter, Velvet.
 Shearwater, Dusky.
 Shearwater, Great.
 Shearwater, Manx.
 Shieldrake, Common.
 Shieldrake, Ruddy.
 Shoveler.
 Skua, Buffon's.
 Skua, Common.
 Skua, Pomerine.
 Skua, Richardson's.
 Smew.

Teal.
Widgeon.
Widgeon, American.

No. 7.

Bittern, Little.
Egret, Little.
Goose, Bean.
Goose, Bernicle.
Goose, Brent.
Goose, Canada.
Goose, Chinese.
Goose, Egyptian.
Goose, Grey-lag.
Goose, Pink-footed.
Goose, Red-breasted.
Goose, Spur-winged.
Goose, White-fronted.
Grouse, Black.
Grouse, Red.
Gull, Great Black-backed.
Heron, Night.
Heron, Squacco.
Owl, Barn.
Owl, Long-eared.
Owl, Short-eared.
Owl, Tawny.
Ptarmigan.
Whimbrel.

No. 8.

Bittern, American.
Bittern, Common.
Bustard, Little.
Bustard, Ruffed.
Cormorant, Common.
Cormorant, Green.
Diver, Black-throated.
Diver, Great Northern.
Diver, Red-throated.
Falcon, Jer.
Falcon, Peregrine.
Falcon, Red-footed.
Gannet.
Goshawk.
Grebe, Eared.
Grebe, Great Crested.

Grebe, Red-necked.
Grebe, Slavonian.
Harrier, Hen.
Harrier, Montagu's.
Heron, Buff-backed.
Owl, Eagle.
Owl, Hawk.
Owl, Snowy.

No. 9.

Kite.
Kite, Swallow-tailed.
Pheasant.

No. 10.

Buzzard, Common.
Buzzard, Honey.
Buzzard, Rough-legged.
Curlew.
Eagle, Golden.
Eagle, Spotted.
Eagle, White-tailed.
Harrier, Marsh.
Heron, Great White.
Heron, Purple.
Ibis, Glossy.
Osprey.
Spoonbill.

No. 11.

Capercaillie.
Heron, Common.
Stork, Black.
Stork, White.
Vulture, Egyptian.
Vulture, Griffon.

No. 12.

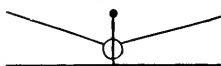
Bustard, Great.
Crane, Common.
Hooper.
Swan, Bewick's.
Swan, Mute.
Swan, Polish.

A FEW WORDS ON COMMENCING A COLLECTION OF LEPIDOPTERA.

BY THE REV. R. P. ALINGTON.

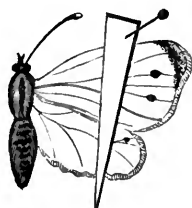
(Concluded from page 252.)

I now come to a very important part of the entomologist's business, the *setting* or spreading out of the wings of his specimens, to dry in a proper form. Of this I believe there are three ways in common practice; of two I shall alone speak, the other I believe is generally adopted abroad, and called the French way. In this case the wings slope upwards from the board, as here shewn.



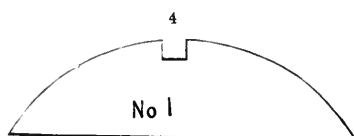
I should fancy this rather a difficult way of setting, and one in which any irregularity would be very injurious to the look of a cabinet.

Of the other two the one most commonly adopted is that with pieces of card of various sizes, cut in the shape of this outline—a pin through the broad end. You must have sundry pieces of cork, as setting boards, or what is preferable, a double box lined with cork; this will keep out dust, and if large enough will serve to keep duplicates in as well. Having run your pin through the centre of the thorax of the fly, slightly leaning forward, so that when stuck into the board, (the body of the fly being somewhat *raised*,) it may stand *perfectly straight*, as in the first of the following figures; place over each wing a piece of card, the wings can then easily be brought into position with a pin, as in the centre figure. The fly, when dry, will be just in the reverse position to that of the first plan mentioned, as shewn in the third figure.



The third plan is to set the flies on pieces of wood cut into shape for the purpose. The collector must provide himself with a quantity of shapes of different sizes to meet all comers to the net. This plan is perhaps more applicable to the larger, while the previous one is most so to the smaller species. The shapes had better be made of the softest wood, to allow the

pin easily to pierce them of the following form:—

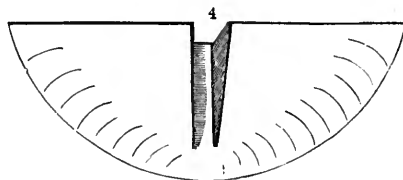


Front.



Section of No. 1.—Side view.

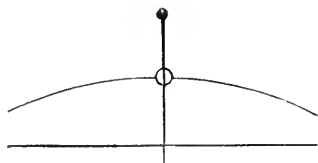
No. 4, a groove running front to back, varying in depth according to the size of the body of the moth capable of being set on the shape.



No. 3.
Upper surface.

Having fixed your fly on the pin, stick it into the groove, (No. 4,) with the insect's head towards the flat side or front, (No. 1,) the body of the moth lying in the groove to keep it straight, so that the wings may be just level with the surface of the wood, and far enough back to allow of the wings coming well forward; then draw one wing down with a fine thread, and holding the thread fast with the finger and thumb, place it in its proper position, then proceed in a similar way with the other wing; then cover up the fly with pieces of silver paper, to prevent the threads, next to be bound tightly round, from marking the fly, which they are apt to do if this precaution is not used; then wind your thread over the whole, round and round, to keep all secure. The thread under the silver paper, which at first served to secure the wings, upon being left hold of, (as soon as one of the upper threads supplies its place,) becomes relaxed, and does not

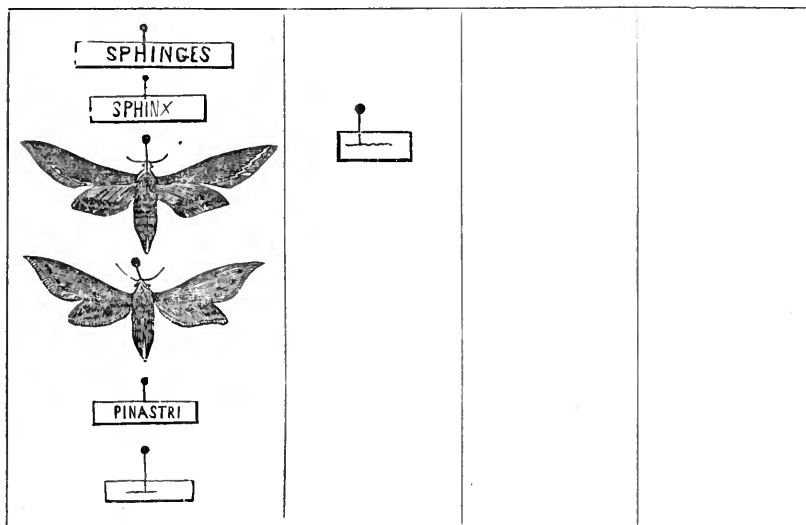
therefore injure the specimen. The insect, when set, will be as in the engraving, and if high enough on the pin, the tips of the wings will not touch the floor of the cabinet, an advantage which the Rev. F. O. Morris (having experienced its good effects)



has pointed out, namely, any mite once displaced will not easily be able again to get upon the insect. This plan appears on paper perhaps difficult to carry out, but with a very little practice is certainly not only exceedingly simple, but well adapted to show off the fly.

The *situations* in which the various species are to be taken must be gleaned from the several books that are published on the subject, (vide

"Naturalist," old series, "Hints to Entomologists," by P. Rylands, Esq., vol. iii., page 246.) Whatever you do mind to select *perfect specimens*; the loss of an *Antenna* is a defect, and, remember, flies set *awry*, pins not put in straight—all spoil the look of a cabinet. Now it is absolutely necessary to possess a *cabinet*, or if the collector prefers some *book-boxes* to preserve your flies in, the latter may be had to order of different dealers, but I have an objection to them, they appear to me to look dark—to cast a shadow on the flies. Perhaps those I have seen may have been made too deep or heavy; however I prefer a cabinet; a small one will be ample for a beginner, say thirty inches high, eighteen inches wide, and twelve from front to back, there or thereabouts; this would contain twelve drawers. Each drawer should be lined with cork, *glazed*, and neatly papered white. Now such a cabinet might probably be obtained, second-hand, for four or five pounds. The preferable way is at once to pin into your drawers Doubleday's names in order as arranged by him, neatly cut out, and leaving between each a space for two or more specimens; and as so small a cabinet will not hold all the British species, the more rare ones may (if purchasing be not intended) for the present be omitted. Your drawers should be divided with fine pencilled lines, according to the size of the different species, and each specimen should be placed exactly one below the other, as here indicated; the slightest irregularity spoils the *look* of a collection. Keep



your cabinet in a dry place, and let each drawer and every box you have be supplied with a lump of camphor, for the sake of preservation; thus armed you may commence your campaign as soon as you have leisure.

But before I conclude I must say a few words on the subject of *killing* moths. The old plan of red-hot needles, boiling water, steam, etc., gives an idea of much cruelty, but since the introduction of chloroform these practices must be dispensed with; it is sure in its effect, and appears to be momentary. The common practice is to have, as I before said, a wide-necked bottle, with a hollow glass stopper, (glass is necessary, as chloroform evaporates quickly through cork,) plug up the stopper with a piece of sponge, a drop of chloroform on this will with care last several days; but I have often thought that a bottle with a false bottom, or in fact a stopper at each end would answer well. The one in which the chloroform is placed would then never have to be taken out of the bottle when a fly was put into it, and would therefore be less exposed to the air. If, too, the neck of the bottle was made at a small angle to the body, the flies would more readily fall into it.

Having thus said my say with reference chiefly to the *day-flying* species, and those that may be taken early in the evening, I would now mention that the most effective plan to take many of the rarer thick-bodied flies, and those that feed later at night, is to anoint some trees with a mixture of sugar, beer, and rum, (vide "The Naturalist," No. lix. page 23;) no net is here required. Place your mixture on the trees at sunset, and with a lantern visit it every quarter of an hour or so. When you find a specimen at the sugar worth capturing, place your chloroform bottle over it, and from the effect of the spirit remaining in it, it will immediately drop into it; cork him up and proceed to another tree. Now there is only one fault that I find with chloroform, that is, that the fly killed with it becomes perfectly *rigid*, and is often most difficult to set properly, the wings refusing to spread out.* In this case I find the only way is to stick a very small pin through each wing. This certainly makes a hole, but if cleverly managed is quite imperceptible. When chloroform, too, is first put into a bottle, and is very powerful, it is apt to *wet* the flies, and cause them to appear as if totally destroyed, but a moment's exposure to the air, and they become completely restored.† By-the-by, some species inhabit only the tops of the highest trees, the Purple Emperor, (*Apatura Iris*), for instance, and some of the Hairstreaks. To capture these a *loop-net*, made of gauze, and fixed to a long pole or bamboo is used; when the fly settles it is easily swept of by and into the net.

Now should your cabinet become stained, full of pin-holes, etc., and require cleaning, use a wash of common precipitate of chalk dissolved in water with a little gum; this is done easier, and is preferable to fresh

* This may be overcome by a careful hand in the setting.—F. O. MORRIS.

† Loose small pieces of blotting paper kept in the bottle will rectify this.—F. O. MORRIS.

papering; it dries perfectly white, fills up all holes, and kills all insects.

Finally, beware of *patching-up* flies. If you have a very rare species, mend it by all means if broken, for fear you should not be able to, or until you do obtain another specimen, but do not attempt to make *one* good fly out of *two* bad ones, (vide "Naturalist," old series, "Hints to Entomologists," by P. Rylands, Esq., vol. iii. page 249.) Beware of dust, damp, and *light*; I mean if your specimens are much exposed to light they are liable to fade. Renew your old specimens whenever opportunity occurs, and keep duplicates for the purpose of exchange. A small *spud* fixed to a walking-stick is a very useful companion at the dead time of the year: by digging close round the roots of oaks, elms, and willows, many a good chrysalis may be found: these should be kept in a box covered with a piece of gauze. If caterpillars be obtained during the summer, they should be kept in the same way, taking especial care to feed them every day with fresh leaves from the plants on which they were found. Some light soil must be placed in each box, an inch or two deep, for those species that go underground for the purpose of change, and they should not be disturbed when they have once gone down. Excepting in the very cold months, December and January, some species of moths may be taken almost every evening, more especially with sugar, thus affording to the lover of entomology a never-ending source of entertainment and instruction.

Rectory, Swinhope, May 10th., 1856.

ON THE PRESENT CONDITION OF THE CLASSIFICATION OF BRITISH LEPIDOPTERA.

BY AURELIUS.

I THINK all British Entomologists will admit that the present state of the Classification of British Insects is most unsatisfactory, and more particularly that branch which has so many students—the Lepidoptera. During the last twenty years we have been continually changing our arrangement, and I much fear we are now in a more confused condition than ever. In 1837, Curtis published his "Guide to an Arrangement of British Insects," and everybody labelled their cabinets with his names. In 1850, Mr. H. Doubleday published his "Synonymic List of British Lepidoptera," which cut down some of Curtis's families most unmercifully; that of *Peronea*, for instance, from thirty-six to sixteen species! Mr. D. left out the *Tineidæ*, and a new candidate for fame appeared, and begun where Mr. D. had left off. In 1852, we had "The Calendar of British *Tineidæ*," by Mr. Stainton. This turned out to be very imperfect, and therefore two years later we had his *Opus magnum*—the "*Lepidoptera Tineina*," being the third volume of the "*Insecta Britannica*," in which I suppose this family have

found a resting-place for a year or two more. Meanwhile no one attempts to re-arrange the *Pterophidæ*, and the *Crambide* are removed from the *Tineidæ*, and placed at the end of the *Tortrices*.

In 1856, we have a new work, entitled "A Manual of British Butterflies and Moths," in which Doubleday's arrangement is not only ignored, but not even alluded to. In the Butterflies, Sphinges, and Bombyces, we find the old names that we had well-nigh forgotten for years; families which had been united are again divided and split up, while in the last number this arrangement is left off, and that of M. Guenée is adopted for the *Noctuina*.

In the meantime the puzzled student wanders from book to book to find out his species. He finds in Westwood one name for his insect, and in Wood he sees it described by another. In Doubleday he probably cannot find it at all, and in Stainton he becomes utterly lost. Well may the Neophyte exclaim "Alas! what hard work is this study of Entomology!"

Now what is the plain matter-of-fact cause of all this absurd trifling with Science? Simply that we want able leaders—we *have no head*—no leading master mind to extricate us from the increasing difficulties produced by incompetent guides. Take for instance this Manual. It ought, as the latest, to be the best. Is it so? I do not wish to press upon a hard-working man who has done some good service in the cause; but if I mistake not, this Manual will be found deficient in practical correctness. For instance, the larva of *Lithosia griseola* is described as "unknown." Immediately we have two entomologists come forward who know it perfectly well. In the last number the larvæ of *Cymatophora ridens* and *flavicornis* are stated to be found in September. A friend of mine writes me word that they are neither of them ever seen in that month, and rarely, if ever, in August. Now such mistakes as these are quite unpardonable in a practical descriptive work. If errors of this kind are discovered in a work at random as it were, our confidence in it as a whole must be shaken.

The unsettled state of the classification of our British Insects has been incidentally alluded to by the reviewer of Mr. Dallas's "Elements of Entomology," in the "Gardener's Chronicle" of October 11th., wherein the necessity of uniting under one competent head in each division, for the purpose of attaining a univocal arrangement, is strongly urged. British Insects, of course, form but a small portion of the insects of the world, and this it may be urged is one reason why our classification is unsatisfactory—Granted;* but that is no reason why we should obstruct the desirable attainment. If we cannot build up, we should not pull down.

* See what I have said to the same purport in the Introduction to my "History of British Birds."—F. O. MORRIS.

If the knowledge of English Naturalists is not sufficiently great, if we have no Fabricius, or Linnæus, or Haworth, in modern days, we should curb our own vanity, and not create a positive injury to Science by making our deficiencies or our follies conspicuous. I believe it is admitted that Guenée's knowledge of the Lepidoptera is very great. I think Mr. Stainton has acted wisely in adopting his arrangement for the *Noctuina*. I presume he will continue it to the *Pyalides* and *Geometridæ*, then we shall have somebody else I suppose for the *Tortrices*, the *Crambidæ*, the *Tineidæ*, and the *Pterophidæ*! Cannot British Entomologists in the meantime come forward and unitedly publish a British list? Such names as Doubleday, Newman, Westwood, and Stainton, united, might carry great weight among us students. At all events a union for such a purpose would be far more profitable than what has been aptly termed by the reviewer, to whom I before alluded, the wasting of time over "mere gossip and polyglot absurdities."

VACATION NOTES.—HERNE BAY.

BY O. S. ROUND, ESQ.

WHEN autumn gives me a real holiday, how I revel in the freedom of the thought, and seem never to have enough of out-door life. What idle work it seems, (to use an anomalous expression,) but remember, we who sit on the sea-shore, and throw pebbles at the mighty element as it is

"Chafing with its shores,"

have had our long day of labour, and the machine wants rest; and perfect rest it is.

The primary use of the sea-side is the out-door life which I spoke of, and you see delicate young ladies, who rise at midday, perhaps, in the great metropolis, fresh as roses newly blown, walking for dear life at 7 a.m., in the face of a stiff breeze, and with tresses bearing recent witness to contact with the briny tide. Young gentlemen, too, who have been to the full as much addicted to court Morpheus, in would-be-marine costume, sitting on the shingle, cigar in mouth, and all the motley assemblage, whom change of air and holiday-time distributes so widely over our shores at this turn of the year. There is a certain degree of melancholy, too, in it; the mighty luminary of day vouchsafes us less and less of his company, our evening walks are briefer, and our watches tell us that the morning light is curtailed of its (whilom) fair proportions; nature is on its annual wane; the summer visitants have fulfilled the duties of incubation, and the air it filled with well-fledged representatives of the order; myriads of the Swallow tribes gambol in airy glee around the house tops, like swarms of

bees, or over the willow aits, and seem trying their wings for a farewell flight. This season has been somewhat an unequal one. The heat during July was very severe, as many a bronzed countenance attests; but there came a change, and the farmer was fain to watch the shocks growing dark beneath pelting showers, and hope for better weather.

Having undergone a severe trial, which rendered change, and quiet, and sea-air requisite, we found them here. It is not a quarter of a century since a few dwellings formed the whole of this town, now scattered and unfinished, but extensive; bathing was carried on *sub dio*, and where now some quarter of a hundred machines stand ranged, not one was to be seen. The neighbourhood to the east, however, has long been known as the scene of a geological phenomenon, displaying what is called the "descending cause," namely the encroachments of the sea upon the land. Who has not heard of the "Reculvers?" the ghostly sisters that stand forth, pale and mysterious, in the dark sky, as mementoes of by-gone times! There has always attached a certain deep interest to this structure—an almost superstitious feeling of awe, from the peculiarity of its circumstances. Once, and that not so long ago, this was a church in which service was performed, standing inland, some say two miles, of Roman and Saxon origin, and the burial-place of one of our earliest rulers. It is invested with the character of a structural record of Time's stern work, as it now hangs on the verge of the precipice, with the billows of a vaster extent of water than any other part of our coast can shew, beating perpetually at its very door. Had it not been for the position it occupies, so prominent and so important in a maritime point of view, doubtless decay had long since done its will; but the further progress of this ruthless invader had been stayed, and all that mason's art could do to preserve it, the brethren of the Trinity house have done, and seamen look for "old Reculvers," the pale sisters, as regularly as for any of the buoys or lights that float so frequently on our hazardous coast.

I visited this place some nine years since, and trace, in that time, that the hand of encroachment has not been idle. The soil is a strong loam, in some parts mere clay, in some mingled with gravel; where there was then a beach, upon which large masses of earth and sandstone lay scattered, the waves now beat upon the cliff itself, for many hundred yards tottering to its fall; walk along the summit and you perceive the same thing, the path that led along the edge ever and anon makes a *detour*, by reason of a fall of earth breaking in upon its line; and even beyond this cracks and fissures meet you at every step. It would probably be a fruitless task to endeavour to explain why the sea encroaches here and not elsewhere, or why, in other localities it recedes; the latter more fraught with difficulty than the former, for it is easy to see how a yielding soil may be washed

away, when a mass of water is eternally beating upon it; whereas, how that mass of water retires might be a riddle impossible of solution, unless you could shew an encroachment on some other coast for which this was a compensation; there may be submarine causes of which we can know nothing, but so it is; and the "sisters" rear their heads, stark and silent, as on the verge of eternity.

There are few sea-side places where verdure ventures so near the shore. Elms grow within a quarter of a mile of the beach, and a short half-mile finds the country well wooded; but this is no doubt capable of explanation, having regard to encroachments of the ocean beyond the original sea-line. Beyond the town, eastward, there is a steep down, and here the entomologist may always find employment. I have met with specimens of *Lepidoptera* not common elsewhere, especially of the order *Phalaena*. Now, of course, the heyday of butterfly life is past, but I saw a good many of the Blue kinds and some Red Admirals. On the furze bushes I observed some Stone and Whinchats, Whitethroats, and Titlarks; a few Wheatears, chiefly young ones, ran along the pathway before us, and a pair of Flushers, or Red-backed Butcher-birds, kept dodging before us, and we saw them capture a large Dung Beetle beside the path; they also were young birds, in that stage of plumage figured by Bewick under the name "Woodchat."

There are some moist meadows not far from the sea, which are rather below the water level; these have been for some time past the favourite resort of a party of Swifts, and I was curious to see how long these gentry would prolong this pastime, inasmuch as their time for departure drew very near, and I began to think that September would still see them there; but instinct was too strong for that, and accordingly, the last evening of August saw the last of them, and on the next day we looked for them in vain.

The country is very rich inland, well wooded and exceedingly picturesque. This is a Hop country, and the crops are very fine, and now in course of picking, but the chief plantations are near Maidstone. Canary seed is also in great luxuriance, and there are some large fields unusually fine, looking much like wheat, and harvested in the same manner; it is a graceful circular ear, and is, I am told, an exhausting crop, though it pays well. The fishermen complain that the steamers have spoiled their trade, but a large fleet of oyster boats come forth from Whitstable Bay on a morning, and make a pretty sight, like so many birds in search of prey: here, also, the sea has encroached much of late. There is a curious trade carried on upon this portion of the coast, about a mile to the west of Herne Bay, where a group of four or five miserable erections, known as "Hampton Cottages," stand together, and send annually to market ship-loads of Pyrites for the manufacture of copperas, which is picked up

in the mud of which the shore at this part is composed; it is cast up by the sea, and found in small pieces, the largest not larger than a finger, and of a longi-spherical form, and much of it is attached to, and deposited on, other substances; I myself picked up some pretty specimens. The stones and piles of the pier are covered with Barnacles and Mussels, and there is scarcely a piece of weed without them; but of other shells I have seen few or none.

This is the wrong season for Marine Ornithology, and accordingly, I have only seen the usual kinds of Gulls and *Tringæ*; but had I the opportunity, I think I might make an extensive collection of *Algæ*; this, however requires to be "taken at the flood," for sunshine and exposure soon render the more valuable and delicate worthless, and you must give yourself up to the pursuit, which I am not able to do. But I have already exceeded my limits, so for the present I shall conclude.

September, 1856.

A LIST OF EPIPHYTES GROWING ON THE WILLOWS IN THE HOLMES, THIRSK.

BY MR. THOMAS FOGGITT.

I HAVE of late been much interested in observing the way in which plants migrate from one place to another, and the manner in which they instal themselves in situations where they would be least expected to appear. There are many plants which not unfrequently establish themselves upon the trees. When growing in such situations they may be Parasites, or Epiphytes—terms which are sometimes confounded, but which are, in reality, considerably different; Epiphytes merely appearing casually, but Parasites springing from the interior of the tree, and deriving their vital principle and nourishment therefrom.

The annexed list will probably serve to illustrate to what extent Epiphytes may be found:—*

Sycamore, (*Acer pseudo-platanus*.)—Growing on three trees.

Raspberry, (*Rubus idæus*.)—On one.

Brambles, (*Rubus corylifolius* and *cæsius*.)—On many, their drooping branches pendent over the waters, or reaching unto the ground.

Dog Rose, (*Rosa canina*.)—Forming a large bush on one tree, and sparingly on several others.

Hawthorn, (*Cratægus oxyeantha*.)—On five trees, six or seven feet high.

* When preparing this paper, a friend placed in my hands "Lees' Pictures of Nature," and directed my attention to a list of Epiphytes growing on the Willows on the banks of the Teme, in Worcestershire, the plan of which list I immediately adopted for the construction of the present one.

Gooseberry, (*Ribes grossularia*.)—Numerous.

Black Currant, (*Ribes nigrum*.)—On one tree.

Red Currant, (*Ribes rubrum*.)—Luxuriant on six.

Ash, (*Fraxinus excelsior*.)—In considerable abundance on ten trees. On a decayed trunk of *Salix alba* I noticed a young Ash nearly four yards high.

Hedge Woundwort, (*Stachys sylvatica*.)—In profusion on three old pollard trees.

Wych Elm, (*Ulmus montana*.)—On three.

Alder, (*Alnus glutinosa*.)—An occasional plant.

Beech, (*Fagus sylvatica*.)—Abundant on two trees.

Oak, (*Quercus Robur*.)—On one.

Epilobium montanum.—In great abundance on many trees. I dare venture to say that there are upwards of fifty roots of this species.

In addition to the above plants I noticed at the time of observation, the following other species:—*Enchanter's Nightshade*, (*Circæa lutetiana*,) *Nipplewort*, (*Lapsana communis*,) *Dandelion*, (*Leontodon Taraxacum*,) *White Dead-nettle*, (*Lamium album*,) *Docks*, (*Rumex sanguineus*, *obtusifolius*, and *acetosa*,) *Nettle*, (*Urtica dioica*,) *Poa annua*, *P. pratensis*, and several other species of grasses, growing principally on the old pollard trees. Also a single plant of *Tropæolum majus*.

Thirsk, August 5th., 1856.

SYSTEMA NATURÆ.

BY THE REV. F. O. MORRIS.

(Continued from page 257.)

GYMNURA.

Gymnura Rafflesii, *Horsf. et Vigor.*

Schinz. *Viverra gymnura*, *Raff.*

Fisch.

SOREX.

Sorex fodiens, *Pall. Schreb. Jen.*

Bell, Selys, Schinz. *S. Daubentonii*, *Erxl. Geoff.* *S. hydrophylus*,

Pall. *S. bicolor*, *Shaw.* *S. fluvialis* et *fodiens*, *Bech.* *S. stagnatilis*,

amphibius, *natans*, et *fodiens*, *Brehm.*

S. leucurus, *Shaw.* *S. carinatus* et

constrictus, *Herm.* *S. nigripes*, *Mel.*

S. Hermanni, *Duv.* *S. leucodon*,

Geoff. *Crossopus fodiens*, *stagnati-*

lis, *musculus*, et *psilurus*, *Wag.* *Amphisorex Pennantii*, et *Crossopus Daubentonii*, *Gray.* *Amphisorex Linneana*, *Gray.*

Sorex remifer, *Geoff. Schinz.* *S. ciliatus*, *Sower. et Wagn.* *S. unicolor*, *Shaw.* *S. fodiens*, var. *Wieg.* *Amphisorex ciliatus*, *Gray.* *Sorice remifer* et *collare*, *Ranz.*

Sorex palustris, *Rich. Gray, Schinz.*

Sorex vulgaris, *Linn. Nath. Jen. Lenz.*

Schinz. *S. araneus*, *Linn.* *S. tetragonurus*, *Herm. Zimm. Schreb. Geoff.*

Selys. *S. cunicularius*, *fodiens*,

et *eremita*, *Bech.* *S. concinus*,

rhinolophus, et *melanodon*, *Wagl.*

- S. coronatus*, Mill. *S. labiosus*, Jen. et Schinz. *S. castaneus et rusticus*, Jen.
- Sorex thoracicus*, Savi, Schinz. *Crocidura thoracica*, Bonap.
- Sorex alpinus*, Schinz. *Amphisorex alpinus*, Duvern. Bonap.
- Sorex pygmæus*, Pall. Laxm. Nath. Blain. Duvern. Gebl. Lenz. Selys. *S. minutus et minutissimus*, Zimm. *S. minutus*, Linn. Schreb. *S. exilis*, Linn. Gmel. *S. minimus*, Geoff. *S. cœutiens*, Laxm. Zawad. *S. Gmelini*, Pall.
- Sorex brevicaudus*, Say. Harl. Schinz. *S. talpoides*, Gapp. *Corsira talpoides*, Gray.
- Sorex Forsteri*, Rich. Gapp. Schinz. *Corsira Forsteri*, Gray, Fors.
- Sorex parvus*, Say. Harl. Schinz.
- Sorex Richardsonii*, Schinz. *S. parvus*, Rich.
- Sorex personatus*, Isid Geoff. Guer. Schinz.
- Sorex araneus*, Herm. Bech. Geoff. Cuv. Jen. Duvern. Lenz. Wagn. Fisch. Selys. Schreb. Schinz. *S. pachyrus*, Küst. *S. inodorus*, Savi, Guld Pall. *Crocidura moschata*, major, rufa, et *poliogastra*, Wagl.
- Sorex leucodon*, Herm. Duvern. Jen. Nath. Gray, Selys. Zawad. Fisch. Schreb. Schinz. *S. Gûldenstaedii*? Pall. Spitz. Wagn. Schreb. *Crocidura leucodon*, Wagl.
- Sorex etruscus*, Savi, Schinz. *Crocidura etrusca*, Nath. Selys, Fisch. Schinz. *Musticolo Toscano*, Bonap.
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- Sorex religiosus*, Geoff. Fisch.
- Sorex tenuis*, Müll. Schinz.
- Sorex cyaneus*, Duv. Schinz.
- Sorex infumatus*, Wag. Schreb. Schinz.
- Sorex capensis*, Schinz. *S. herpestes*, Duv.

(To be continued.)

Miscellaneous Notices.

Stormy Petrel.—One was taken alive in the town of Newmarket, October 17th., 1855. Another was picked up at Bottisham, in this county, October 20th., 1855.—SAMUEL PARKER SAVILL, 13, Regent Street, Cambridge, October 6th., 1856.

Cream-coloured Courser, (*Cursorius Isabellinus*).—A splendid male specimen of this rare bird has been shot by the Rev. J. Landon, of Braunton, in one of the Braunton marshes. I saw it in the shop of Mr. Fraine, the birdstuffer, of Barnstaple, before it was skinned, and he is

going to preserve it for Mr. Landon.—GERVASE F. MATHEWS, Raleigh House, Pilton, near Barnstaple, North Devon.

The Querist.

As Mr. Stainton does not believe what Mr. Greene says about the larvæ of *Lithosia* feeding occasionally upon other food than lichens, he will probably not believe me; but as other entomologists may perhaps be less sceptical, I will give them the benefit of my own experience. Two years ago, in the month of July, I found two larvæ of a *Lithosia* crawling up the stem of a young poplar tree, in Buckinghamshire; they resembled the common *L. complanula*, but the general colour was considerably paler. The undergrowth being principally sallow, I tried whether they would eat it; they did so freely, and I therefore never gave them any other food. They fed up, spun, and produced a pair of *Lithosia griseola* in August. If this is not conclusive evidence I do not know what is. I have also bred the common *Lithosia complanula* from larvæ fed solely on crab. In the last No. of the "Manual," Mr. Stainton says that the larvæ of *Ceropacha ridens* and *flavicornis* are only found in September. Now my own experience has been that the larvæ of these two insects are full fed in the middle and towards the end of July. The moths are both very early in their appearance—March, April, and May—and I very much doubt if any one ever took the larvæ of either insect in September, and very rarely, if ever, in August. It is possible that a stray one may occasionally occur in the latter month, but on examination it will in all probability be found to be ichneumonoid, or otherwise diseased. At any rate, September is *most certainly* not the month to look for them. The larvæ of *Ceropacha flavicornis* is not uncommon in most places on birch trees in June and July; and *C. ridens* I have beaten off oaks in July, in Kent and Herts. It is not at all a common larva. They both spin the leaves together, like the nest of the *Ceropacha ridens*, only slightly; *Flavicornis* makes a regular house for itself, and comes out to feed at night. Mr. Stainton also, I observe, says that the larva *Leucania lithargyria* feeds upon chickweed and plaintain. I should feel extremely obliged to any of your readers if they will inform me if they have ever taken the larva of this insect on either of these plants. I found it in some plenty this spring in May, by searching at night with a lantern along the sides of the ridings in the Hampshire woods. Although there were numerous plants growing abundantly, I never by any chance saw the larva feeding upon anything but grass. As soon as it gets dark, they usually crawl up to the tops of the blades of grass, and begin to feed: they do not appear to be particular as to the species of grass. At the same time and place, and feeding upon the same food, I took the larvæ of *Hipparchia junira*, *galatea*, and *hyperanthus*, and *Leucania impura*.

The two latter in great abundance.—H. HARPER CREWE, Breadsall Rectory, near Derby, October 20th., 1856.

IN the "Querist" for August, occurs the following passage:—TAXUS says "Chrysalides are found in greatest abundance at the foot of the alder, willow, oak, elm, and ash." Will he kindly inform your readers what chrysalides he finds at the roots of the *ash*? To this query is appended a remark by the Editor, "I have scarcely ever found any under the ash." In default of any other reply, it may be interesting to Mr. Cooper to know that I have myself taken all the subjoined species at the roots of that tree, namely, *Lithosia rubricollis*, *Phragmatobia Menthrasti* and *lubricipeda*, *Pœcilocampa populi*, *Semaphora Psi*, *Acronycta ligustri*, (commonly,) *S. xanthographa*, *Chersotis plecta*, (commonly,) *Tæniocampa gothica*, *stabilis*, *instabilis*, and *cruda*, *Cirrædia xerampelina*, (not uncommonly,) *Xanthia cærago*, *X. ferruginea*, *Hadena persicariæ*, *Phlogophora meticulosa*, *Abrostola urticæ* and *triplasia*, *Ennomos illunaria* and *fuscantaria*, (one,) *Odontopera bidentaria*, *Himera pennaria*, *Anisopteryx æscularia* ♂ and ♀, *Phigalia pilosaria*, *Biston hirtaria* and *betularia*, (both commonly) *Harpalyce ruptaria*, *Cheimatobia dilutaria*, (very commonly), and *Eupithecia innotaria*. Will "Taxus" permit me to ask in my turn how, when professing to enumerate the best trees for pupa digging, he could possibly omit the various kinds of *poplar*, a tree which produces, among many other species, such insects as *P. palpina*, *N. dictæa* and *Ziczac*, *A. leporina*, *C. ocularis*, *Or.* and *diluta*. He also gives *alder* as a good tree. The only insects I ever found at the roots of that tree were *N. Dromedarius* and *P. impluviaria*. I believe the pupa of *C. bicuspis* has been taken on the trunk of that tree in the north. I would venture to suggest to all pupa diggers that there is no use whatever in trying *small* trees.—REV. J. GREENE, Playford, Ipswich.

[I am inclined to think that some, if not most, of the above-named or other species, when found at the roots of ash trees, have only crawled thither in their wanderings to bury themselves, finding appropriate shelter here and there. We all know from every-day experience how the caterpillars of a vast variety of Moths thus crawl about; for instance, of the above, *Menthrasti* and *Lubricipeda*. I shall be glad to hear what (if any) species Mr. Greene *has himself fed in confinement on the ash*. With regard to the alder, I have known the *larva* of *Alni* taken from it; such, indeed, is imported by its name to be its proper food, but I suppose Mr. Greene intends only to speak of the chrysalides found at the roots, and the one in question, I imagine, spins a web. With regard to the poplar, Mr. Greene is perfectly right; it ought to be with entomologists as it is often *popularly* called, the *popular* tree.—F. O. MORRIS.]

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